

2015-2016

**HOUSE
AGRICULTURE**

MINUTES

HOUSE COMMITTEE ON AGRICULTURE
2015-2016 SESSION

<u>MEMBER</u>	<u>ASSISTANT</u>	<u>PHONE</u>	<u>OFFICE</u>	<u>SEAT</u>
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William D. Brisson	Caroline Stirling	733-5772	534	23
Cecil Brockman	Grady O'Brien	733-5825	1311	118
Mark Brody	Neva Helms	715-3029	2219	89
George G. Cleveland	Pamela Ahlin	715-6707	417-A	18
Jeff Collins	Wes Householder	733-5802	1106	29
N. Leo Daughtry	Jan Copeland	733-5605	2207	2
Jimmy Dixon	Michael Wiggins	715-3021	416-B	19
Beverly Earle	Ann Raeford	715-2530	514	60
Charles Graham	Linda Laton	715-0875	1309	84
George Graham	Beverlee Baker	733-5995	1321	91
Yvonne Lewis Holley	Lee Lewis	733-5758	1213	95
Howard J. Hunter	Brenda Bennett	733-5780	1307	106
Bert Jones	Brenda Olls	733-5779	416-A	54
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David R. Lewis	Grace Rogers	715-3015	2301	6
Marvin W. Lucas	Thelma Utley	733-5775	509	22
Susan Martin	R. Lynn Taylor	715-3023	306-C	63
Chuck McGrady	Laura Bone	733-5956	304	28
Larry G. Pittman	Tammy Pittman	715-2009	1010	43
Michele D. Presnell	John Wall	733-5732	418-A	67
Joe Sam Queen	Gregory Lademann	715-3005	1017	103
Robert T. Reives, II	Veronica Green	733-0057	1323	104
Dennis Riddell	Polly Riddell	733-5905	533	64
Brad Salmon	Katie Stanley	715-3026	1319	107
Bob Steinburg	Bethany Hudson	733-0010	301-B	51
Rena W. Turner	Barbara Gaiser	733-5661	602	68
Ken Waddell	Sherry Jordan	733-5821	403	80
Sam Watford	Regina Irwin	715-2526	2121	111
Roger West	Linda C. Johnson	733-5859	1229	8
Chris Whitmire	Megan Kluttz	715-4466	537	86
Shelly Willingham	Johnna Smith	715-3024	501	108
Larry Yarborough	Leslie Murray	715-0850	1301	101
Lee Zachary	Haley Kitts	715-8361	1002	110



HOUSE COMMITTEE ON AGRICULTURE
2015-2016 SESSION



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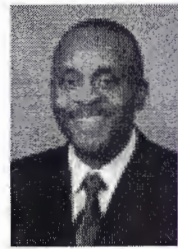
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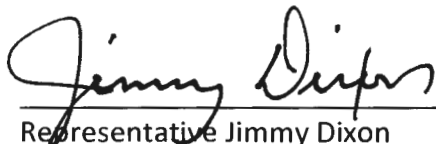
MINUTES

House Agriculture Committee
Tuesday, February 24, 2015
1:00 PM

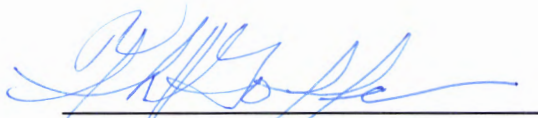
The House Agriculture Committee met on Tuesday, February 24, 2015 in Room 643 of the Legislative Office Building. The following members were present: Chairmen Dixon and Brody; Vice Chairmen George Graham, Lucas and Zachary; Representatives John R. Bell, IV, Bradford, Brockman, Cleveland, Hunter, Jones, Martin, McGrady, Presnell, Riddell, Salmon, Turner, Watford, Whitmire and Willingham.

Chairman Dixon called the meeting to order and introduced the Pages and Sergeants at Arms. The visitor registration is attached.

Chairman Dixon introduced Dr. Richard H. Linton, Dean of the North Carolina State University College of Agriculture and Life Sciences. Dr. Linton delivered a presentation entitled, "Looking Forward for North Carolina: NC Plant Sciences Initiative...and More!" A copy is attached. After answering questions from members of the Committee and concluding remarks by Chairman Dixon, the meeting adjourned.



Representative Jimmy Dixon
Committee Chairman



Thomas H. Goffe
Committee Clerk



1990



**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Tuesday, February 24, 2015

TIME: 1:00 PM

LOCATION: 643 LOB

COMMENTS: The Committee will receive a presentation by Dr. Richard H. Linton, Dean of the North Carolina State University College of Agriculture and Life Sciences.

Respectfully,

Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 1:13 PM on Thursday, February 19, 2015.

___ Principal Clerk
___ Reading Clerk – House Chamber

Thomas Goffe (Committee Assistant)



**House Committee on Agriculture
Tuesday, February 24, 2015, 1:00 PM
643 Legislative Office Building**

AGENDA

Welcome and Opening Remarks

Introduction of Pages

Presentations

Dr. Richard H. Linton, Dean of the North Carolina State University College of Agriculture and Life Sciences.

Other Business

Adjournment



**Looking forward for
North Carolina:**

**NC Plant Sciences Initiative
....and More!**

NC STATE UNIVERSITY
College of Agriculture
and Life Sciences

Richard H. Linton
Dean and Director of Agricultural Programs


**We need to feed
9.3 billion people
by 2050**

**So we must
double our food supply
and enhance efficiency**

**With less water and land,
more pests and diseases
and still protect the environment**

**We asked our
stakeholders for
direction....**

**How do we grow
our #1 economic
engine in NC**



cals.ncsu.edu/strategicplan

And acted on their ideas


Leadership

Student Access

Food Animal Products

Plant Sciences

Food Processing and
Manufacturing



Plant Sciences

Leadership

Food Processing/Manufacturing



**The NC legislature asked for
economic feasibility studies**

\$350,000
NC Plant Sciences Initiative

\$250,000
NC Food Processing and Manufacturing Initiative

The results are in



NC Plant Sciences
Initiative

Steven Lommel
slommel@ncsu.edu
919-515-2717



NC Food Processing and
Manufacturing Initiative

Christopher Daubert
cdaubert@ncsu.edu
919-515-2951

Download at cals.ncsu.edu

The results are in



NC Plant Sciences
Initiative

Steven Lommel
slommel@ncsu.edu
919-515-2717



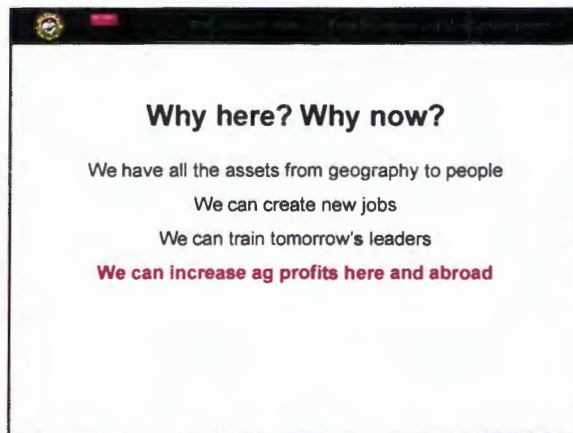
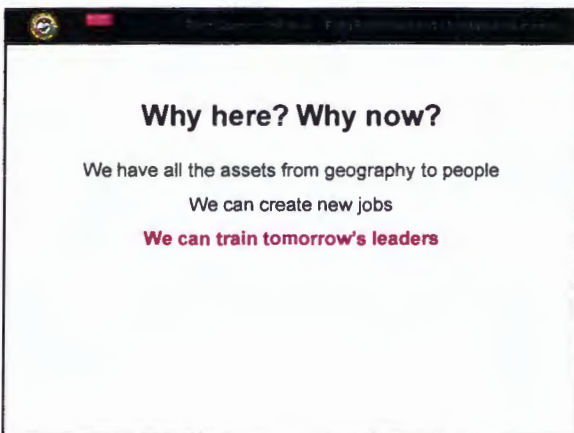
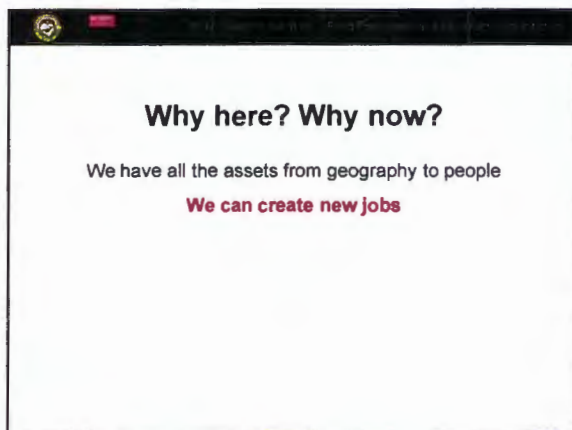
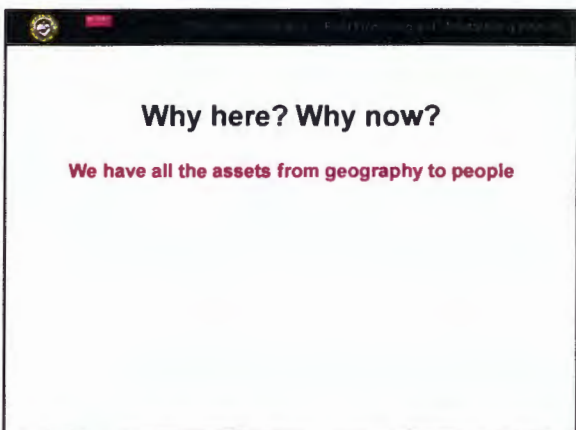
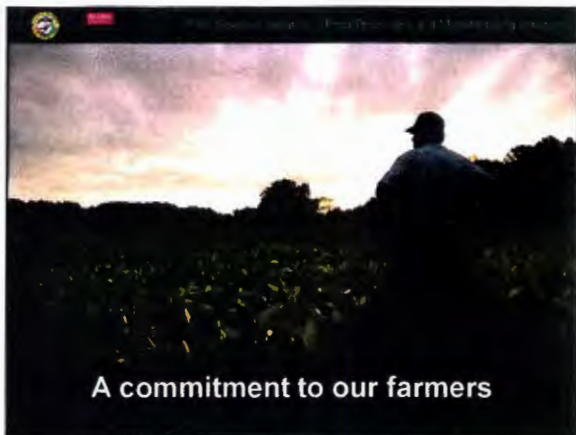
NC Food Processing and
Manufacturing Initiative

Christopher Daubert
cdaubert@ncsu.edu
919-515-2951

Download at cals.ncsu.edu









Why here? Why now?

We have all the assets from geography to people
 We can create new jobs
 We can train tomorrow's leaders
 We can increase ag profits here and abroad
We can grow the NC ag industry to \$100 billion

Why here? Why now?

We have all the assets from geography to people
 We can create new jobs
 We can train tomorrow's leaders
 We can increase ag profits here and abroad
 We can grow the ag industry to \$100 billion
We can increase the quality of life in rural and urban NC

Why here? Why now?

We have all the assets from geography to people
 We can create new jobs
 We can train tomorrow's leaders
 We can increase ag profits here and abroad
 We can grow the NC ag industry to \$100 billion
 We can increase the quality of life in rural and urban NC
We can be the world leader in plant science

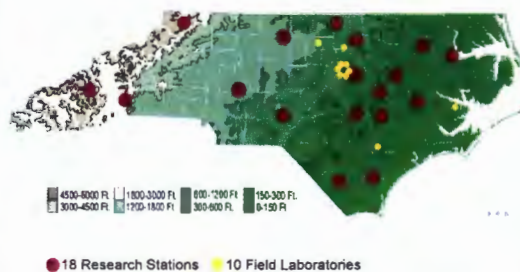
Plants and Food: The economic drivers for NC



NC Plant Sciences Initiative



NC State and NCDA partnership: Research covers the state

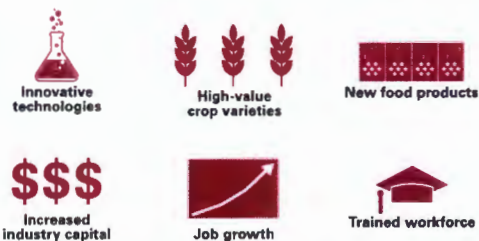




Innovation and collaboration can transform our economy



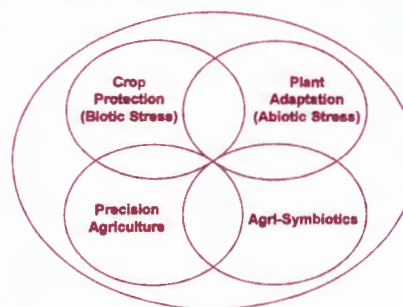
The Plant Sciences Initiative can deliver...



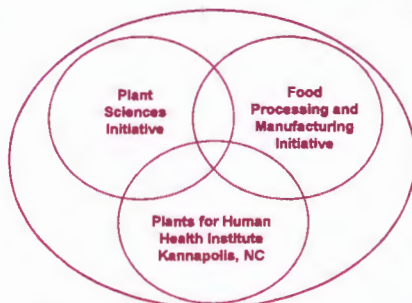
The knowledge pipeline



Discovery and innovation



Enhancing plants, nutrition and foods



PSI job and economic growth

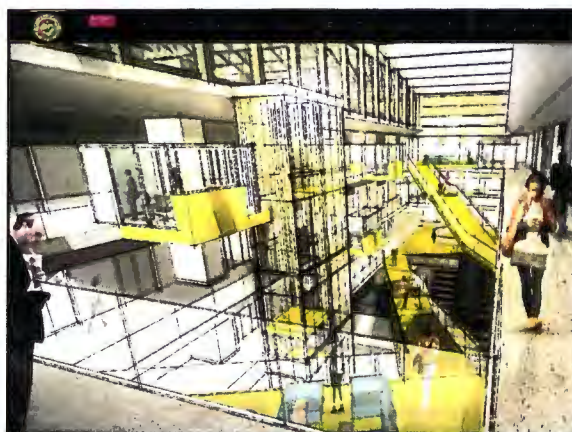
32,000 jobs
+ \$9.2 billion

10 years



Building three things can make it happen:

1. Interdisciplinary teams
2. Business and academic partnerships
3. A world-class facility to bring the ideas to life



Strong industry support

- NC Small Grain Growers Association
- NC Soybean Producers Association
- NC State Ag Foundation
- Corn Growers Association of NC
- NC Sweet Potato Commission
- NC Pork Council
- NC Peanut Growers Association
- CALS Research Foundation
- NC Vegetable Association

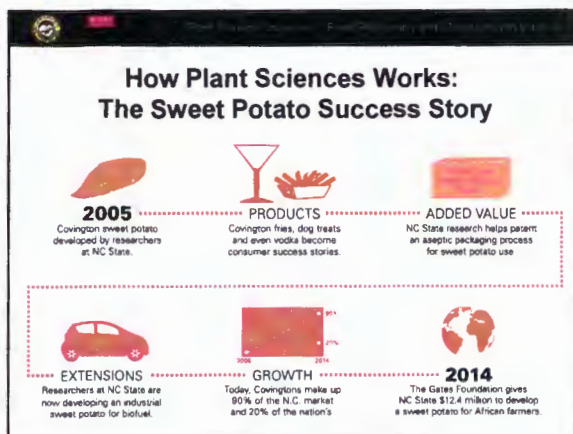
\$7,535,000 Pledges to Date

\$9M GOAL



New varieties. Improved crops.





Low risk

High reward

***A \$180 million investment....
is less than 1/4th of 1% of a 1 year
return on the \$78 billion
Agriculture industry***



Recommendations from the study

- Food Product and Process Innovation Center
- Value-Added Food Entrepreneurship Network
- Pro-Active Industrial Recruitment Campaign
- Regulatory Training and Outreach

FMI job and economic growth

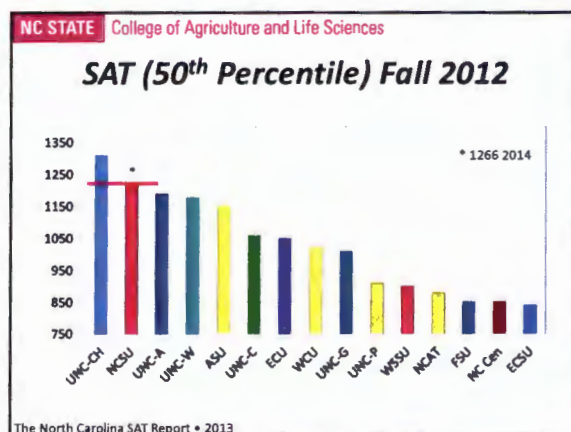
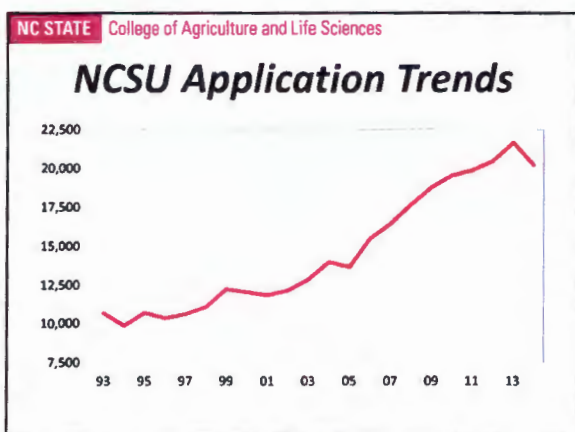
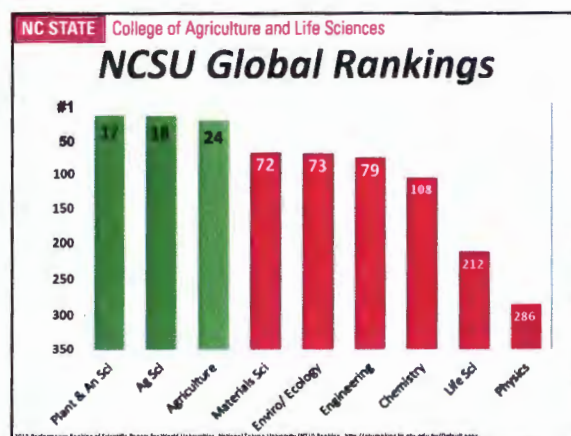
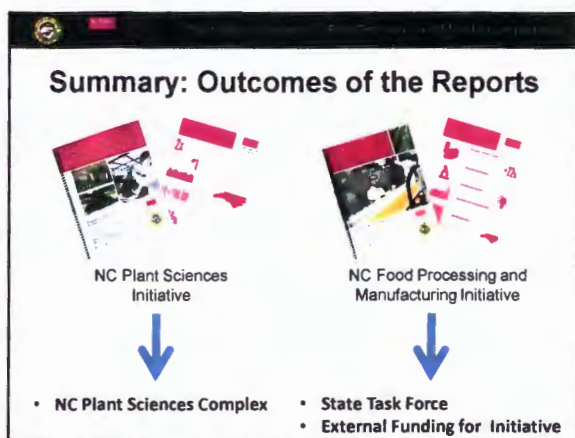
38,000 jobs
+ \$10.3 billion

6 years (after adapted)

First Steps

- State-wide "Governor's" taskforce
- Outside funding to begin the initiative (\$1.5 million over 3 years)





A.S.P.I.R.E.

Acquiring SAT Preparation In Rural Education

ACT Supplemental Preparation In Rural Education
(30 hours instruction, NC Extension in 40 counties)

NC STATE UNIVERSITY COLLEGE OF AGRICULTURE & LIFE SCIENCES

aspire2 higher education

As Carolina Rural Center N.J.C. Golden LEAF FOUNDATION NORTH CAROLINA FARM BUREAU RURAL CENTER

NC STATE College of Agriculture and Life Sciences

Alternate Pathways

Multiple Pathways – Same Destination


STEAM

NORTH CAROLINA COMMUNITY COLLEGE SYSTEM



NC STATE College of Agriculture and Life Sciences

S.T.E.A.M.
Student Transfer Enrollment Advising and
Mentoring Program



- approximately 100 invitations
- goal of 50 participants
- 2 semester structured coursework
- Summer access & mentoring
- 3.0 GPA = guaranteed admission

Summer Session 2, 2015	Fall 2015	Spring 2016	Summer Session 2, 2016	Fall 2016
NC State	Community College or other University	Community College or other University	NC State	NC State





THE NORTH CAROLINA PLANT SCIENCES INITIATIVE: AN ECONOMIC FEASIBILITY STUDY



Prepared for the State of North Carolina
by the partnership of

NC State University
College of Agriculture and Life Sciences

and the

North Carolina Department of
Agriculture & Consumer Services

December 2014

**NC STATE
UNIVERSITY**

College of Agriculture
and Life Sciences



Abstract

For Full Document: cals.ncsu.edu



Commissioner Steven W. Troxler
NCDA&CS
1001 Mail Service Center
Raleigh, NC 27699-1001
P: 919.707.3000



**NC STATE
UNIVERSITY**
College of Agriculture
and Life Sciences

Dean Richard Linton
Office of the Dean
Campus Box 7601
Raleigh, NC 27695-7601
P: 919.515.266

January 1, 2015

Please find attached to this letter a report entitled *The North Carolina Plant Sciences Initiative: An Economic Feasibility Study* in response to Section 13.1 of 2014 NC Legislation:

PLANT SCIENCES RESEARCH AND INNOVATION INITIATIVE – SECTION 13.1

- (a) *The funds appropriated by this act to the Department of Agriculture and Consumer Services for the Plant Sciences Research initiative shall be used by the Commissioner to develop jointly with the College of Agriculture and Life Sciences at North Carolina State University and other stakeholders a formal proposal and economic needs assessment for establishment of a public/private partnership between the University, other academic institutions, private companies in the agribusiness and bioscience sectors, the Department, and other State regulatory agencies for the following amounts and purposes: (i) the sum of three hundred fifty thousand dollars (\$350,000) for a partnership to be known as the "Plant Sciences Research and Innovation Initiative" and (ii) the sum of two hundred fifty thousand dollars (\$250,000) for a partnership to be known as the "Food Processing Initiative."*
- (b) *The Department and North Carolina State University shall jointly submit a copy of the proposal and report on the results of the economic needs assessment to the Chairs of the House of Representatives Appropriations Subcommittee on Natural and Economic Resources, the Chairs of the Senate Appropriations Committee on Natural and Economic Resources, the Agriculture and Forestry Awareness Study Commission, and the Fiscal Research Division by January 1, 2015.*

This report specifically addresses the economic feasibility study for section 13.1, part (a) (i) related to "Plant Sciences" and was completed in partnership with the NC Department of Agriculture and Consumer Services, and, the College of Agriculture and Life Sciences at North Carolina State University. The economic analysis, evaluations and recommendations provided in this report have been provided after extensive external stakeholder input and food/agricultural data for North Carolina, and beyond.

It is our hope that this report provides meaningful information for North Carolina to grow its number one industry – Agriculture – to even higher levels. Questions and suggestions related to this report can be directed to either one of us or to the project lead: Dr. Steve Lommel, Associate Dean for Research, NC State University College of Agriculture and Life Sciences at slommel@ncsu.edu or 919-515-2717

Sincerely,

Steven W. Troxler, Commissioner
North Carolina Department of Agriculture
and Consumer Services

Richard H. Linton, Ph.D., Dean
NC State University
College of Agriculture and Life Sciences

Abstract

North Carolina has a significant opportunity to be the global hub for advanced plant sciences research and for the application of that research to expanding agricultural productivity. Given the strong and growing demand for agricultural products into the foreseeable future, driven by expanding populations and global wealth, agriculture and agbioscience represent a significant economic growth driver.

North Carolina currently has a compelling case to make with regards to its global position within plant sciences, driven by several distinctive assets: a diverse agronomic environment suited to the development and commercialization of multiple crops; a world-class cluster of multinational agbioscience corporations; an expanding base of entrepreneurial business enterprises in the sector; and NC State University (which ranks 6th in the nation in agricultural research volume). While the state's case for plant science-based economic development is highly compelling, there is a rather stark gap evident in the lack of modern physical infrastructure for plant science advancement at NC State (which has not seen a new building in the College of Agriculture and Life Sciences since the 1950s). This gap in world-class academic plant-science infrastructure is well recognized by key agriculture, business and economic stakeholders in North Carolina who have identified both a need and urgent opportunity to develop a major new interdisciplinary plant science building on the NC State Centennial Campus. Independent evaluation of the potential development of the NC State Plant Sciences Initiative (PSI), and the proposed Plant Science Building (PSB), has found unprecedented levels of support for the initiative from agricultural commodity groups, the NC Farm Bureau, leading NC-based multinational agbioscience companies, the North Carolina Department of Agriculture and Consumer Services, and other key stakeholder groups. The initiative is seen as a "must do" program, one that will serve as a critical step in enhancing public/private partnerships and completing an extremely robust ecosystem for agbioscience- and plant-science based economic growth.

Conservative employment impact estimates of the PSI over the next decade indicate that it could, by itself, generate an additional 2,365 jobs in North Carolina by 2024. Starting in 2018 (allowing for PSB construction time), economic output in North Carolina would increase significantly, growing to \$366 million annually by 2024. Battelle's projections show economic output directly attributable to the PSI, between 2018 and 2024, growing by \$1.4 billion. As noted, by 2024 the output of the North Carolina economy, just for that year, would be \$366 million higher than otherwise projected if the PSI were not built (and, again, that is being conservative). Put another way, just six months of increased economic output in one year (2024) would be equivalent to the entire \$180 million PSB cost. Clearly, these conservative impact results provide a strong justification for the Initiative.

Why is the proposed Plant Sciences Building required?

- NC State has antiquated plant science infrastructure.
- The big challenges in agbioscience require multi-disciplinary approaches, and NC State lacks this space for plant sciences.
- NC's leading agbioscience industry cluster wants space on campus for collaborative industry/university R&D projects.
- There is a need for space to incubate new businesses from plant science innovations and new technology development.
- Specialized space is needed for cross-disciplinary training of students to produce the workforce that a growing industry in NC will require.
- A signature space investment will help attract the very best and brightest in plant sciences to NC State.
- Recommended focus areas for research in the PSB will result in innovations that will enhance agricultural production in NC and its associated economic impacts.

As noted in this report, the PSI and PSB will serve to build upon and reinforce North Carolina's strong momentum in life sciences and biotechnology development, while at the same time developing innovations and technologies that will enhance the economic success of North Carolina's farms and the value-added industry chain that depends on high-productivity agriculture. It is important to note that the Plant Science Initiative comprises a critical element in development of a fully-integrated food production value-chain in North Carolina — and will be a key contributor to further significant economic impact benefits through synergies with the proposed Food Manufacturing Initiative (discussed in a separate report) and the existing NC State Plants for Human Health Institute.

Executive Summary

Introduction

As a leading economic sector, agriculture is responsible for employing over 2 billion people globally providing for the economic well-being of countless families in both the developed and developing world. Closer to home, the agricultural sector is currently responsible for one in every 12 U.S. jobs. In North Carolina, agriculture and its value-chain represents the largest industry in the state.

The current and future importance of agriculture to global well-being and progress is hard to overstate. Agriculture and its related agricultural science and value-chain activities (agbioscience) are faced with the awesome responsibility of feeding a rapidly expanding global population, enhancing and protecting human health, preserving the environment and global biodiversity, and providing inputs to a growing green industrial economy. When examining the diverse geographic nature of agriculture, the scope of challenges addressed, and its critically important role in supporting global and local economic systems, agriculture is as important today, and into the foreseeable future, as it has ever been. Because of this, the opportunities for agbioscience-based economic development are substantial.

Agbioscience as a Signature Development Opportunity for North Carolina

North Carolina has an extremely compelling case to make for agbioscience-based economic development, especially in plant sciences. It is currently one of a limited number of global locations that:

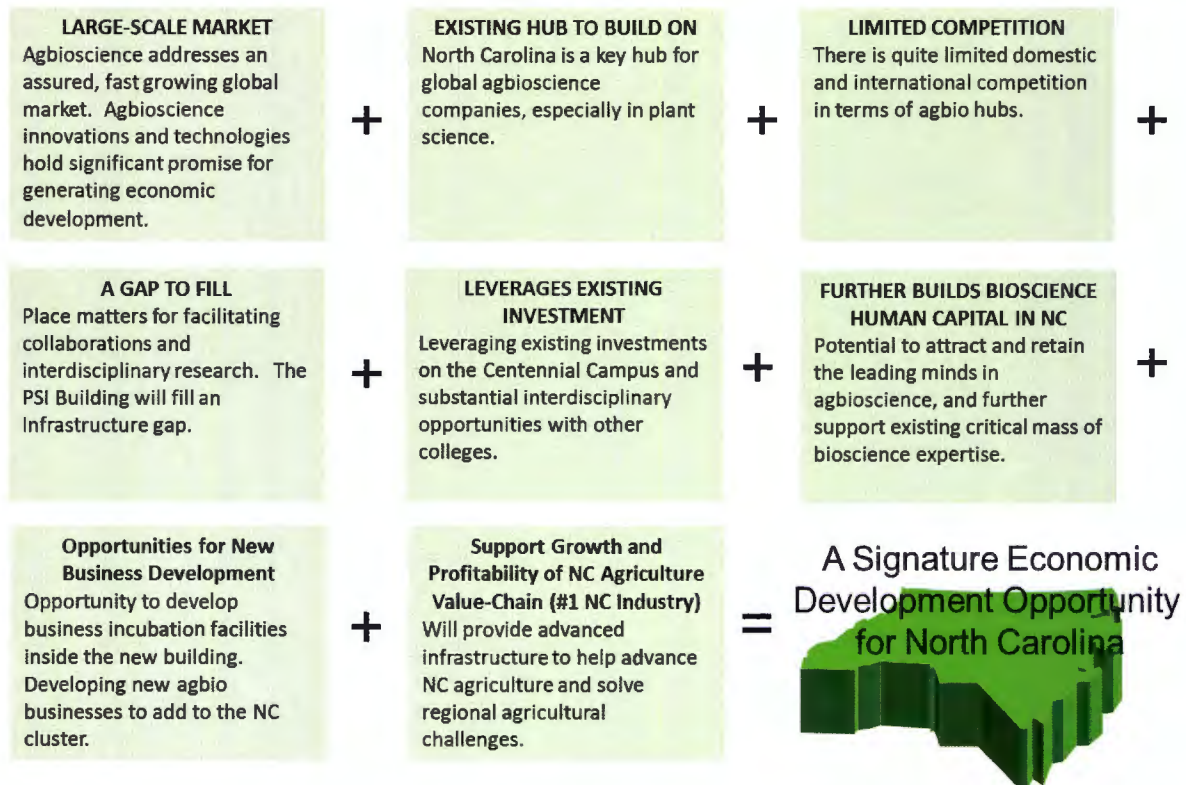
- Enjoys a strong, recognizable cluster of major agbioscience multinational operations, including major R&D operations of these companies.
- Is experiencing growth in agbioscience start-up business enterprises.
- Is home to a top ranked land-grant university, NC State University, in terms of total agbioscience research funding.
- Has a diverse agronomic environment suited to the growth and development of multiple crops.
- Maintains an overall policy and regulatory framework that is still generally favorable to agbiotech and the introduction of associated innovations.
- Has developed the infrastructure, business support services and workforce development programs required to underpin the growth of advanced biotechnology industry.
- Provides a quality of life and location conducive to the attraction of the skilled human capital required for advanced agbioscience jobs.

Because of these favorable characteristics there is an opportunity for North Carolina in agbioscience that is perhaps matched by only a handful of other places globally. There is an open window of opportunity for the state to invest in building upon the strong foundation already present in North Carolina to become the core global hub for plant-based agbioscience R&D and associated business growth. The Battelle Technology Partnership Practice (TPP) performs science- and technology-based economic development (TBED) projects across the world and has directed the evaluation and design of TBED programs in most U.S. states but in no location so far has Battelle TPP seen such a promising convergence of assets poised to take advantage of large-scale expanding markets as North Carolina has in plant science and associated agbioscience.

Recognizing the opportunity to cement North Carolina as the leading global location for advanced plant sciences, NC State University has proposed to develop a Plant Sciences Initiative with an associated Plant Sciences Building on the Centennial Campus that would be unequalled in U.S. academe and serve as a powerful hub for plant science innovations to reinforce North Carolina agriculture, spur innovative research collaborations with North Carolina's major base of agbioscience corporations, and form a state-of-the-art education center for producing the plant scientists of the future. As can be seen in Figure ES-1,

such a development is a solid fit into an equation of agbioscience-based economic development in North Carolina.

Figure ES-1: The Plant Sciences Equation: Leveraging Unique Advantages for NC Economic Development



NC State University: An Asset to Build Upon

NC State is particularly well positioned to take on a major plant sciences initiative. The University is ranked in the elite Carnegie Classification of "very high research activity" institutions, and as one of the nation's premier land-grant universities. A key component of NC State's research, education and extension activity has always been focused in agricultural sciences and associated disciplines. In a nation where agricultural research occurs in all 50 states, NC State's performance in research is distinctive, placing the University in a strong position of 6th in overall agricultural sciences R&D expenditures.

The strength of NC State and the College of Agriculture and Life Sciences (CALS) in plant sciences research and associated agbioscience disciplines is important because without a strong R&D foundation within universities and research institutions, it is difficult for any state to initiate or sustain major cluster-based economic development. In agbioscience it is clear that land-grant universities are particularly important contributors to basic and applied research. In North Carolina, the base of basic and applied R&D capability within NC State, and in smaller niche areas within other universities, is considerably extended by the intensive R&D operations of leading global agbioscience corporations, including Syngenta, BASF, Bayer CropScience, Novozymes, and Monsanto, together with an emerging base of new agbioscience companies.

Battelle's economic analysis of North Carolina shows that the commercial agbioscience industry is a strong contributor to science- and technology-based economic development in the state. In the agricultural and plant-related R&D sector, for example, North Carolina employs almost 1,700 people and is highly specialized compared to the nation having a location quotient of 3.85 (equivalent to having 2.85 times more people employed in the sector than would be expected given national averages). Over the

past decade this sector has nearly doubled its employment base in North Carolina (growing by 98% since 2001) and even added jobs despite the recession. The state is similarly a leader in the highly technical agricultural chemicals sector, with almost 2,400 personnel and a location quotient of 2.23. Across plant science-related technological and agricultural sectors the state of North Carolina demonstrates very high productivity levels as measured by value-added per worker (operating at 540% of normative national levels driven especially by strong performance in tobacco, ag chemicals, bioprocessing, fruit and vegetable production, nursery and floriculture and cotton production. Because of high productivity, the overall plant science sector in North Carolina pays almost \$5,000 per year more in average wages to workers than the national average for this sector.

Because of North Carolina's robust cluster of advanced agbioscience companies, and the research conducted at NC State University, the state stands out as a significant national contributor to innovation and patent generation in agricultural and plant science arenas. One of the state's primary areas for local patenting activity is in identification and production of new plant varieties. Innovations in this category, as well as the biocide/pesticide category, stem from both NC State and the industry base in the state. Between 2009 and 2014 Battelle identified 684 awarded patents in plant science with North Carolina inventors, plus an additional 424 patents have been assigned to North Carolina-located patent holders from other sources. North Carolina is both producing, and acquiring, advanced plant science technologies to commercialize and grow the sector.

As can be seen from these statistics, and the key factors highlighted in Figure ES-1, North Carolina has a compelling case to make as a global agbioscience leader. It is not, however, a perfect case. The key gap in the North Carolina offering pertains to the quality of physical building infrastructure at NC State University for advanced agbioscience research and the fact that industry currently views the institution as "good" but not "great" in many areas. This is because of infrastructure deficiencies, gaps in faculty expertise and unfilled faculty positions. There is also a lack of understanding within industry of the full scope of the faculty at NC State, and the highly relevant skills they have for advancing modern plant science.

Locations that have tended to become the leading growth poles in technologies have shared the characteristic of having a world-class university presence in that technology field with close industry connectivity think Stanford and Silicon Valley, MIT and Harvard in Boston, Cambridge University and the British biotech cluster. As science and technology becomes more complex, the requirements for educated workers more critical, and open-innovation more central to technology industry strategies the presence of a world-class university, with world class infrastructure, to support an industry cluster becomes more and more important. North Carolina has proven that industry growth can be attracted by quality research universities with Research Triangle Park standing as a testament to the vision of marketing a region based on the presence of three anchoring world-class research universities. **The one part of the equation that is quite obviously lacking is high-quality advanced agbioscience academic building infrastructure, especially in terms of space to accommodate the interdisciplinary teams that are so important to advancing discovery and innovation across complex challenges.**

A Need to Invest to Realize Full Development Potential

For NC State there is a need for agbioscience investment on three primary fronts:

- **Most pressing is a need for improvement in physical infrastructure to advance clusters of expertise and interdisciplinary science** and to better connect capabilities with regional agbioscience industry.
- **Also required is investment in faculty and graduate student positions directed towards filling gaps in current capabilities** and assuring that NC State achieves the global leadership position in the final platforms determined as interdisciplinary thrusts for the Initiative.
- **Further investment in seed funding will also be needed to facilitate interdisciplinary team formation** and to provide the start-up funds that may then be leveraged to attract significant extramural funding. This would build upon the existing Research Innovation Seed Fund Program at NC State.

St. Louis, one of the other leading global agbioscience hubs, sees North Carolina as formidable competition to their vision to be the global leader in agbioscience (see sidebar). However, St. Louis has invested in world-class independent research institute/academic facilities (the Donald Danforth Plant Science Center), to advance agbiosciences research and collaborations with industry, whereas North Carolina has not...yet.

NC State has advanced a concept for filling the gap for developing, on the Centennial Campus, a \$180 million advanced interdisciplinary Plant Sciences Building (PSB). The stated vision for the building is "to create the premier plant sciences infrastructure in the U.S." As envisioned, the Plant Sciences Building would be a world-class facility that will:

- *Foster the spirit of multi-disciplinary research to solve global challenges*
- *Create unique partnerships among universities, industry and government*
- *Maximize efficiencies for integrating our core missions of research, teaching, and outreach programs*
- *Be the premier destination for plant sciences in the world*
- *Allow NC to have a unique competitive advantage locally to globally*
- *Leverage our unique assets to create the Silicon Valley of Plant Sciences.*

"We (St. Louis) are a hub... but we're not the only hub. A true hub goes all the way down the value-chain starting with seed and then through agriculture, agricultural product processing, distribution and food manufacturing. If you look at some of the other hubs like Research Triangle Park in North Carolina, they are very much a hub for seed companies and other technologies. And they're a very formidable hub, but it is a little less integrated than St. Louis, and it's less of an innovation culture."

James Carrington, President
Donald Danforth Plant Science Center

With a total building area of 190,000 sq. ft. the envisioned Plant Sciences Building will provide space for the faculty offices and research labs of up to 65 faculty. It will accommodate the faculty and their associated research teams (post-docs, students and staff) together with core scientific infrastructure required to support several major interdisciplinary research thrusts. It is also anticipated that the PSB will contain business incubation and company co-location space. Battelle concurs with NC State that this building is a critically important component in realizing the state's potential for agbioscience and plant science leadership.

While the United States has had a long-standing record of excellence in agbiosciences, firmly rooted around the major land-grant universities, it is an area of academic research that has seen relatively little investment in state-of-the-art research infrastructure. As noted in a recent report by Pardee, Alston and

Chan-Kang¹ the “U.S. public agricultural research infrastructure is antiquated”, and this situation is certainly the case at NC State where the last major new building investment in CALS, as noted by Dean Richard Linton, occurred in the 1950s. Whereas in biomedical sciences the quality of facilities seen on leading university campuses is at a level seen in industry, the same is not true in agbiosciences where industry has built state-of-the art laboratories and automated greenhouses, while academic agbioscience space investments have languished. Industry leaders in North Carolina, interviewed by Battelle, noted the lack of modern infrastructure and facilities at NC State in CALS in comparison to the University’s investment in state-of-the-art buildings for engineering and other disciplines at the Centennial Campus. The comparison of the modern agbioscience facilities available to agbiotech company researchers at RTP, compared to current infrastructure within CALS is stark.

This general lack of investment in U.S. academic agbioscience facilities, of course represents an opportunity for North Carolina to gain significant visibility and attention by developing the proposed PSI building on the NC State Centennial Campus. Other than the non-profit Donald Danforth Plant Science Center in St. Louis, the proposed PSI building would stand without peer among U.S. academic institutions serving to show the commitment of NC to the sector, and a powerful attractor for academic research talent and industry collaborators. Several of the major agbioscience companies interviewed by Battelle noted that, were the PSB to be developed as envisioned, they would likely station research teams and post-docs in the building, sponsor joint research programs with the university, and potentially support the endowment of faculty positions. Commodity groups in North Carolina are similarly supportive of the need to invest in advanced scientific infrastructure to keep NC State generating the innovations and practices that sustain yield improvements in North Carolina agriculture. Again, in Battelle’s experience, the expressed support by external stakeholders to seeing the new building developed at NC State is unprecedented.

The Need for an Interdisciplinary Approach, and Space to Facilitate it.

There is growing recognition of the benefits associated with interdisciplinary science and team science in addressing major scientific and technological challenges. Indeed there is growing acknowledgement that modern grand challenges, and some of the biggest questions in science, demand solutions that are beyond the capabilities of any single discipline. The facilitation of interdisciplinary teams of faculty is thus key to advancing progress and innovation in a complex area such as agriculture. **Recent research shows that the construction of an interdisciplinary building to house interdisciplinary activity is key to developing an interdisciplinary culture** communicating commitment to interdisciplinarity efforts in a way that words or policies alone cannot. Harris and Holley conclude that there is a “need for collaborative teams to be housed in a single structure regardless of existing organizational structures. Physical proximity is a key element in creating an environment of communication and open exchange of ideas”.²

Having state-of-the-art scientific research infrastructure and instrumentation available to interdisciplinary teams of scientists is likely to be beneficial to NC State’s traditional land-grant university role in supporting NC agricultural producers, in addition to providing distinctive capabilities to advance research discoveries and collaborations with North Carolina’s leading cluster of global agbioscience corporations and entrepreneurial agbioscience businesses. A number of key issues facing agricultural producers (such as the expanding challenge of herbicide

resistant weeds, emerging diseases and pests, etc.) lend themselves to multidisciplinary solutions engaging expertise in plant pathology, entomology, crop science, soil science, horticulture, engineering, economics, etc. to develop integrated approaches to challenge management. Modern economic development is not just about creating new jobs, it is also concerned with maintaining existing jobs and industry competitiveness in the face of relentless domestic and international competition. The

¹ Philip G. Pardey, Julian M. Alston, and Conie Chan-Kang. April 2013. “Public Food and Agricultural Research in the United States: The Rise and Decline of Public Investments, and Policies for Renewal.” AGree, Food & Ag Policy.

² Michael Harris and Karri Holley. “Constructing the Interdisciplinary Ivory Tower.” Society for College and University Planning, 2008.

new PSB, and the platforms suggested as key thematic areas for NC State (see below), hold significant promise for the rapid deployment of cross-disciplinary teams to address emerging issues for North Carolina agricultural producers. The overarching theme of increasing agricultural yield factors directly into supporting North Carolina farmers and the agricultural-value chain in the state in addition to directly connecting to the agbioscience industry cluster.

Suggested Development Platforms for the PSI/PSB to Advance in North Carolina

Some choices have to be made in order to develop an initiative that:

- **Is focused enough** to have a critical mass of world-class interdisciplinary expertise brought to bear to make significant progress on a relatively compact number of important basic and applied agbioscience questions
- **Advances the study of selected frontier areas of plant science** as identified by major external bodies (such as those identified in the decadal vision established by the American Society of Plant Biologists)
- **Presents a potential pathway towards the development of commercial technologies** and products that would be a fit to established and emerging clusters of corporate agbioscience capabilities in North Carolina yet, includes major work at the pre-competitive level allowing multiple corporate stakeholders to participate collaboratively
- **Makes significant progress in developing innovations and solutions relevant to the grand challenge of advancing global food security**
- **AND, ideally, shows promise for translation into potential applications in North Carolina agricultural production.**

NC State is already, as the 1862 land-grant university for the state, a provider of diverse R&D and extension support for North

Carolina's agriculture sector. This NC State commitment to supporting the needs of the in-state agriculture sector is important to maintain and sustain however, it does not mean that this mission has to be the sole or primary focus of the new Plant Sciences Initiative. **The larger opportunity for North Carolina is to make the state THE global leader in advanced agbioscience particularly in the R&D and production operations of agricultural technology companies.** These companies have been growing in the state, pay high wages, and export high-value products and services. The global food challenge is such that an all but assured market exists for innovations, technologies and products that advance agricultural yield and other key characteristics of agricultural production.

Generating Job Growth for North Carolina

It should be noted that across the U.S. agricultural output has increased substantially in recent decades while employment in agricultural production has continued to decline. Overall this leads to the conclusion that while agricultural productivity will continue to grow, the primary production sector (farming) is unlikely to be a source of major job growth in individual U.S. states, including North Carolina. This is supported in the economic analysis performed by Battelle and reported herein.

The real promise for significant growth in high-paying jobs is contained within the advanced agbioscience sector the sector developing and producing the advanced technology-based inputs that farming will need to achieve global food security.

North Carolina has the opportunity to leverage its existing base of advanced agbioscience companies, in combination with a major investment in academic plant science (through the proposed Plant Sciences Initiative), and its diverse agronomic environment (for R&D field support) to become THE global leader in advanced agbioscience industry. While clichéd, the opportunity is real to make North Carolina the Silicon Valley of agbioscience.

Achieving incremental increases in North Carolina agriculture is a noble and valid goal, and should indeed remain a core component of the operation of CALS research, education and extension activities. Overall it is not, however, a big enough vision for the Plant Sciences Initiative. Rather the core goal of the Initiative should be to continue the successful advancement of North Carolina as the recognized hub of the advanced plant science sector, globally. It should work to add a core asset to the plant science mix in North Carolina that cements the State’s position as a, if not the, global leader in advanced agbioscience providing a platform for continued growth in agbioscience-based economic development. It should fill the gaps created by aging agbioscience infrastructure at NC State, to propel the institution to the forefront of advanced agbioscience capabilities and collaborative infrastructure. It should also serve as a signature attractor for the best and brightest minds in plant sciences.

To this end, Battelle recommends that the Plant Sciences Initiative be designed to address the “MUST HAVE” goals in the table below while, ideally being flexible enough to also leverage its infrastructure, assets and personnel to address the second column on the table.

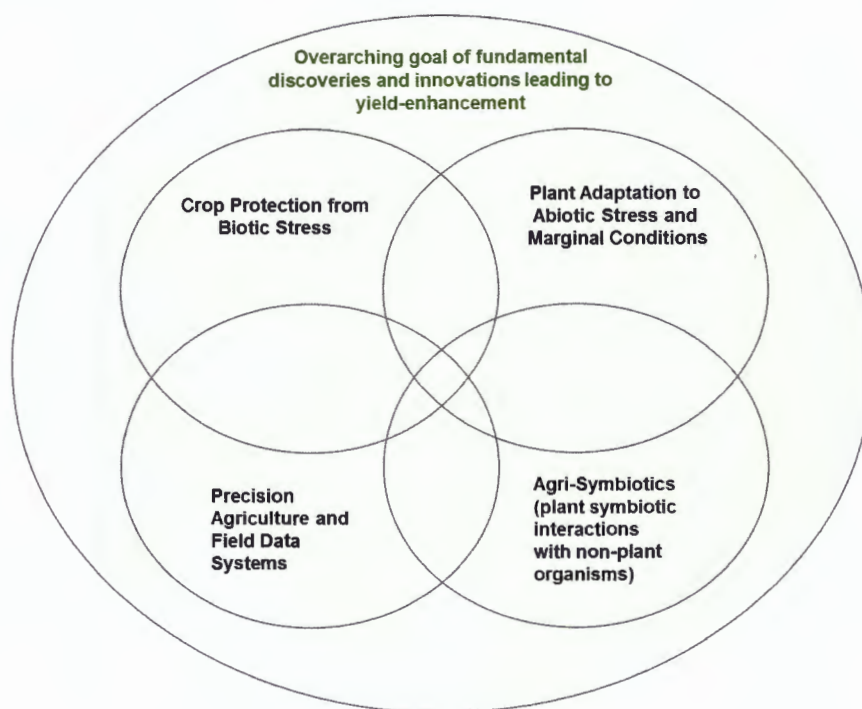
MUST BE	WOULD BE BENEFICIAL IF
The PSI is focused enough to achieve truly “world-class” and, ideally, “world leader” status in three major thrust areas in modern plant science.	Has the flexibility to address long-term fundamental scientific investigations, <u>while also</u> bringing together flexible interdisciplinary teams to address shorter-term identified challenges and applied research projects for NC stakeholders where warranted.
Provides a line-of-sight to reinforcing and further developing North Carolina as a powerful global hub for advanced agbioscience corporations (achieving robust cluster-based economic development) and the leading location for new agbioscience business development.	Makes advancements in technologies and practices that may be applied to improve productivity and output in North Carolina agriculture.

To provide focus to the Initiative, Battelle has conducted a detailed review of plant science and associated R&D core competencies. The review of core competencies and opportunities in the state included:

- Consideration of grand challenges and fast-growing frontier areas of plant science.
- The existing and emerging core competencies in agbioscience contained within NC State, and surrounding complementary institutions, including industry.
- Capabilities and assets at NC State, outside of CALS, that may be leveraged to advance interdisciplinary plant sciences.
- Input and advice from key internal and external stakeholder groups.

Taking these informational resources into consideration, Battelle concludes that the Plant Sciences Initiative should focus its efforts on an overarching theme of “agricultural yield increase” with an emphasis on four interdisciplinary thematic focus areas (platforms). The recommended platforms include those in Figure ES-2 and discussed further below the figure.

Figure ES-2: Recommended Interdisciplinary Development Platforms for the Plant Sciences Initiative



Platform 1: Crop Protection for Biotic Stress

Focus	Globally, an average of 35% of crop yield is lost to pre-harvest pests. ³ This platform will focus on the control of plant pests (pathogens, insects, weeds and other organisms having a negative impact on plant health and yield).
Fit to NC State capabilities	79 NC State faculty were identified as having research capabilities and interests relevant to this platform. Multiple core competencies were identified via research publication cluster analysis in areas such as plant and pathogen genomics, plant pathology, entomology, and weed control.
Potential Products and technologies	Improved pesticides; biological control products; novel resistance traits for improvement of crops; application technologies for control products; integrated pest-management and decision-support systems.

Platform 2: Plant Adaptation to Abiotic Stress and Marginal Conditions

Focus	In North Carolina, and around the globe, significant agricultural land exists on the margins of sustainable agricultural productivity. Whether because of water, climate, soil fertility, salinity, occasional freeze pressures, or other factors, such land is under permanent or periodic abiotic stress conditions that limit agricultural crop yields. This platform will focus on improving plant performance under conditions of abiotic stress.
Fit to NC State capabilities	35 NC State faculty were identified as having research capabilities and interests relevant to this platform. Multiple core competencies were identified via research publication cluster analysis in areas such as plant drought resistance, plant physiology and plant nutrition and soils.
Potential Products and technologies	Novel commercializable traits for plant improvement; improved crops and crop cultivars; resistance to abiotic stress; identification of new crops best suited to specific field conditions; soil amendments and inoculants;

³ Dehne HW, Oerke E, Schonbeck F, Weber A (2004). Crop production and crop protection: Estimated losses in major food and cash crops. Elsevier: Amsterdam.

automated field phenotyping equipment and analytical systems.

Both Platform 1 and Platform 2 intersect in building upon the considerable strengths of NC State in plant breeding and applied plant genomics. There exists notable breadth and depth of faculty working in traditional breeding, marker-assisted selection, trait identification and plant transformation. This is also an arena in which NC State has contributed in the technology development sphere: in high throughput plant genotyping and marker-assisted technologies. An overarching opportunity (raised by faculty, industry and external stakeholder groups) is to cement a leadership position in linking lab genomics with field phenotyping data for trait identification and then to leverage university capabilities and regional industry capabilities in plant transformation to advance yield improvement based on adaptation to stress conditions. Advancing in the genotype-phenotype space lends itself strongly to interdisciplinary collaboration between CALS, the College of Engineering and the analytical sciences contained within the College of Sciences.

Platform 3: Precision Agriculture and Field Data Systems

Focus	The focus of this recommended platform will be on the development of precision agriculture technologies that allow producers to optimize the timing, amount, and placement of inputs (seed, fertilizer, pesticides, irrigation, etc.) for any given area of a field. Advancements in sensor technologies, wireless data transmission, remote sensing, unmanned/autonomous vehicles, robotics, imaging analysis, machine learning, high-speed data analytics, etc. hold promise for the development of agricultural production equipment, and field research equipment, that can significantly increase agronomic yield.
Fit to NC State capabilities	This platform would leverage faculty across several colleges at NC State. 60 NCSU faculty were identified as having research capabilities and interests potentially relevant to this platform. The platform leverages one of the NC State cluster hiring initiatives in Geospatial Analytics, and presents significant opportunities for interdisciplinary work between the College of Engineering and CALS.
Potential Products and technologies	GIS, GPS and precision positioning systems; guidance systems; variable rate application systems; equipment and field-mounted sensor systems; remote sensing and aerial platforms; robotic/autonomous field phenotyping and data gathering systems; data analysis tools and decision support systems; engineering and design of low-cost precision agriculture technologies for small and mid-size farms.

Platform 4: Agri-Symbiotics (plant symbiotic interactions with non-plant organisms)

Focus	This platform would focus on advancing scientific understanding of the beneficial biological interactions between plants and other organisms (especially microbes, but also including fungi and invertebrates), and application of knowledge of such symbioses to technologies for advancing agricultural yield.
Fit to NC State capabilities	37 faculty were identified as having capabilities and research interests that could be directed towards work in this platform. However, among the four platforms, this is the one in which NC State currently lacks sufficient faculty depth and several new hires would be needed. It is, however, seen as a key area for potential industry-university collaboration in North Carolina, with significant interests expressed by large agbioscience industry in the state.
Potential Products and technologies	Novel traits for plant improvement that encourage formation of beneficial symbiotic relationships; custom microbial communities for seed or field application; biological control agents with highly targeted specificity and organic production compatibility; soil amendments and improvement

By design, the platforms recommended by Battelle have some overlap with one another providing for not just interdisciplinarity within each platform, but also cross-platform interactions and supports. The four platforms each contribute to an overarching theme of **using science for generating discoveries and innovations that may be applied to agricultural yield enhancement.**

Ideally, through this approach of selecting platforms that intersect with one another there is opportunity for the “whole to be greater than the sum of its parts” through encouraging systems thinking across approaches to yield improvement. There is also the opportunity for key existing faculty, and faculty recruits, to have cross-cutting capabilities in support of more than one platform. Similarly, certain instrumentation and key infrastructure assets may serve double-duty across platforms for example, genomics, plant transformation, phenotyping, data analytics, growth chambers and greenhouse facilities (among others).

Scenarios for Plant Science Development Impacts

To estimate the potential impact of the Plant Sciences Initiative as envisioned, Battelle first assessed the current impact of the plant technology sector on North Carolina and then evaluated scenarios for growth based on continuation of current trends, and a positive increase in impacts potentially generated by the research, industry collaborations and technology commercialization potential of Initiative-related innovations.

It was determined that the best baseline data on industry impacts are those contained within the North Carolina Biotechnology Center's database. NCBiotech is well-known for taking a rigorous approach to tracking jobs in NC life science sectors and, given the focus of the recommended platforms on agbioscience technology development, it was determined by Battelle economists that the NCBC data would best relate to the types of economic impacts that may be generated through the PSI. It should be noted that Battelle's estimate of impact is likely quite conservative since it does not attempt to quantify increased farm output that may result from applications of NC State developed technologies, nor the value-added production that may occur in the state downstream of primary agricultural production. In other words, the analysis herein assumes that primary impacts pertaining to the PSI will be the generation of commercializable technologies and the technology-industry growth around this.

The plant science technology industry already has a significant economic impact in North Carolina, employing an estimated 6,497 personnel in 2013, and generating another 18,660 jobs through indirect and induced multiplier effects. The industry boosts the total state economy by circa \$8.2 billion (comprising both direct and indirect output impacts). Growth in the state's plant science technology industry has largely been driven by employment gains in the “research and development” sector.

Under present trends, the industry may be expected to grow by a CAGR of 1.8% over the next 10 years. NC LEAD projects direct employment in plant technology industries to grow by 1,427 employees through 2024 to reach a direct employment level of 7,924 and a total employment impact of 29,297 jobs taking into account employment multiplier effects. Battelle's estimates are that the proposed Plant Sciences Initiative, by contributing innovations, corporate partnerships and incubating new start-up companies, could conservatively generate an additional 143 direct jobs annually in the plant technology sector (starting in 2018 allowing for PSB construction time) thus generating approximately 1,000 additional direct plant technology sector jobs by 2024.

The total impact of the PSI enhancing the plant technology sector in the state, taking into account both direct and indirect jobs and economic impact by 2014, is estimated to be significant. Battelle anticipates that the total direct and indirect impact of the plant technology sector, with the addition of the PSI, will be an increase of 2,365 jobs and an increase in associated economic output of \$366 million by 2024.

Further, the Plant Science Initiative comprises a critical element in development of a fully-integrated food production value-chain in North Carolina that presents further significant economic impact benefits (as discussed in the separate report on the proposed Food Manufacturing Initiative).

A Critical Component of a Unique NC Agriculture and Agbioscience Development Ecosystem

Noted in Chapter I of this report, among the most critical challenges facing humankind is the challenge of feeding the world's expanding human population in a sustainable manner. Meeting this grand challenge is no small task, with current estimates indicating a need to increase available food by 70 percent by 2050 in order to be able to feed the world's growing population. This challenge has to be met sustainably, without pressing more marginal lands into production, degrading the environment, or depleting scarce freshwater resources.

There are three macro-areas of innovation and advancement that are needed in order for the challenge to be met: 1) increase agricultural yield and production efficiency; 2) reduce the significant volume of post-harvest food waste that occurs, and 3) provide global consumers with highly nutritious, healthy and affordable food products.

North Carolina has a unique opportunity to be at the forefront of providing research-based solutions to the grand challenge and each of its three macro-solution areas. Each of three major initiatives—the Plant Sciences Initiative (PSI), the Food Manufacturing Initiative (FMI), and the existing Plants for Human Health Institute on the NC Research Campus in Kannapolis—can be coordinated to provide a unique science and technology development ecosystem for addressing the global food challenge. The individual initiatives, and their synergistic connection to the three-part solution equation of “increasing yield-reducing waste-increasing food product, process, and nutrition quality” are shown in Table ES-1:

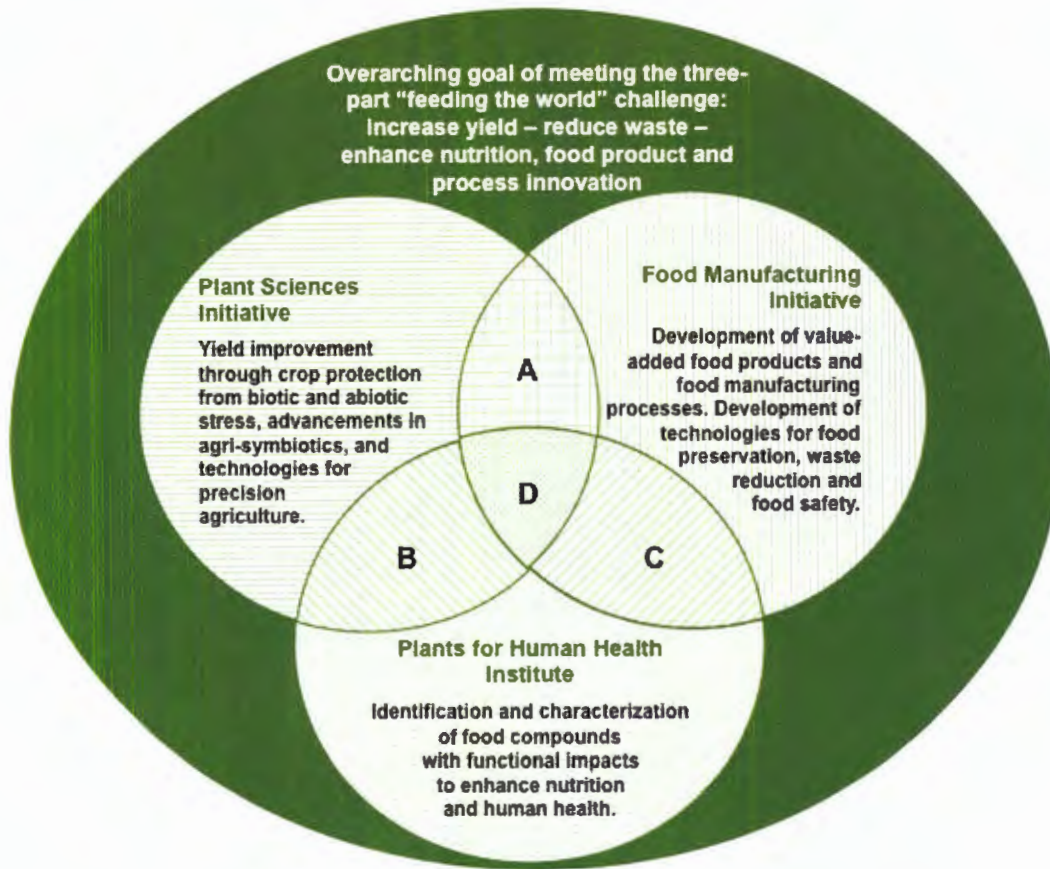
Table ES-1. North Carolina's Integrated Opportunities that Address Challenges of Feeding the World.

Increase Yield	Reduce Waste	Enhance Nutrition/ Food Product & Process Innovation
Plant Sciences Initiative		
<p>An overarching theme of yield improvement accomplished through four principal platforms:</p> <ul style="list-style-type: none"> • Crop protection from abiotic stress • Plant adaption to abiotic stress and marginal conditions • Precision agriculture and field data systems • Agri-symbiotics (beneficial plant symbiotic interactions with non-plant organisms). 	<p>Reduction of pre-harvest, in-field loss due to enhanced crop protection and stress management technologies and solutions.</p> <p>Potential to apply plant improvement technologies to identify traits and develop cultivars for improved post-harvest quality and resiliency characteristics that reduce waste, or morphology and other characteristics that improve downstream processability.</p>	<p>Potential to apply plant improvement technologies to identify traits and develop cultivars with enhanced functional nutrient content and improved sensory characteristics.</p>
Food Manufacturing Initiative		
<p>Application of plant improvement technologies to identify traits and develop cultivars with enhanced functional nutrient content and improved sensory characteristics.</p>	<p>Post-harvest physiology and technology to extend shelf life.</p> <p>Advanced packaging technologies, such as ohmic heating, high pressure processing, ozone processing, continuous microwave heating, and aseptic processing of particulates, to extend shelf-life and reduce waste.</p> <p>Innovations in flavors, extraction</p>	<p>Development and application of new product and processing innovations with regards to a wide variety of meat, fruit, vegetable, dairy, and beverage products with improved health, safety, quality, and expanded functionalities.</p> <p>Innovation in food products to enhance consumer desirability</p>

	and sensory technologies to enhance the ability to use additives to improve safety, freshness, and shelf-life.	and nutritional content, including fortification of traditional foods (i.e. addition of vitamins, minerals, bacterial cultures). New manufacturing techniques that improve sensory and taste qualities such as minimal processing, heat treatments, freeze-drying etc. Innovations in flavors, extraction and sensory technologies to enhance the ability to use additives to improve nutritional value, and improve taste, texture and appearance of food products.
Plants for Human Health Institute		
Identification of compounds in fruits and vegetables that are associated with certain health benefits, such as cancer prevention. Development of plant breeds that have higher levels of anti-carcinogenic and other beneficial compounds. Sequencing plant genomes to understand which genes are responsible for making the health-protective components in the plant.	Storage technologies to enhance functional food compounds.	Establish mechanisms of known and new bioactive compounds and microbes and clarify how food structure contributes to bioactivity. Develop technologies for producing and distributing appealing, healthy foods and ingredients.

The potential integrated nature of North Carolina's ecosystem if these three initiatives are realized is illustrated in Figure ES-3.

Figure ES-3: North Carolina's Integrated Opportunities for Agriculture and Food Development



Intersection A: Potential to apply plant improvement technologies to identify traits and develop cultivars for improved post-harvest quality and resiliency characteristics that reduce waste, or morphology and other characteristics that improve downstream processability and product innovation.

Intersection B: Potential to apply plant improvement technologies to identify traits and develop cultivars with enhanced functional nutrient content and improved sensory characteristics.

Intersection C: Development of product innovations, processing technologies, food safety and preservation systems, etc. that preserve functional nutrient availability and quality throughout the production and distribution chain. Creation of value-added advanced food products and processes.

Intersection D: Improvement of plants with high nutritional value and functional health characteristics for processability, post-harvest preservation of nutrition content, food product innovations, etc.

It should be noted that while the above "agriculture and food development ecosystem" emphasizes plant-based agriculture for human consumption, the concept can be readily applied to livestock agriculture improvement as well. For example, the ecosystem could be applied to enhancing plant yield as feed commodities, improving the functional nutrition profile of feed, and technologies for reducing waste, feed spoilage or contamination in the livestock feed chain.

Finally, while this ecosystem has global implications, it is also important to note that it has significant economic implications for North Carolina. By focusing holistically on the entire food value chain, the combination of the efforts ensures that the work does not stop at the farm gate, but instead continues through to food manufacturing and ultimately to the end consumer. By linking activities across

departments within NC State CALS and other colleges and institutions across the state of North Carolina, the ecosystem avails itself of the broad and deep expertise found within a variety of scientific and technological disciplines, thereby helping to ensure the ultimate economic benefit to the state of North Carolina.

Conclusion

North Carolina has a significant opportunity to be the global hub for advanced plant sciences research and for the application of that research to expanding agricultural productivity. Given the strong and growing demand for agricultural products into the foreseeable future, driven by expanding populations and global wealth, North Carolina has an unprecedented opportunity to build upon its existing cluster of agbioscience R&D, business operations, and diverse agricultural assets, to drive job growth and economic development in the state.

The Plant Sciences Initiative represents a "must do" project for North Carolina, filling the major gap in the current ecosystem in terms of a need for modern, interdisciplinary academic plant sciences infrastructure and a facility to advance collaborative public/private research and associated industry development.

THE NORTH CAROLINA PLANT SCIENCES INITIATIVE

A proposal to establish North Carolina as the world leader in plant sciences research and innovation.

NC STATE
UNIVERSITY

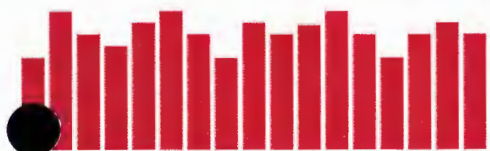
College of Agriculture
and Life Sciences

2x

The world must double food production in 35 years to feed a population estimated at nine billion. Sustainable plant production is the key to achieving this challenge.

#1

Agribusiness is the number one sector in the state's economy and is projected to exceed \$100 billion before 2020.



North Carolina is the nation's third most diverse agricultural state, with nearly all climatic and soil conditions represented.

\$1 = \$19.90

Every \$1 spent on agricultural research in North Carolina returns \$19.90 in economic benefits to the state.

Over the
next 25 years

84%

of U.S. agricultural jobs are projected to be in the plant sciences disciplines.

A growing population. A reduction in farm acreage. Shifts in climates and water sources. The grand challenges facing agriculture require the best minds from academia and industry — as well as those from traditionally non-agricultural disciplines such as physics, engineering, mathematics, modeling and economics.

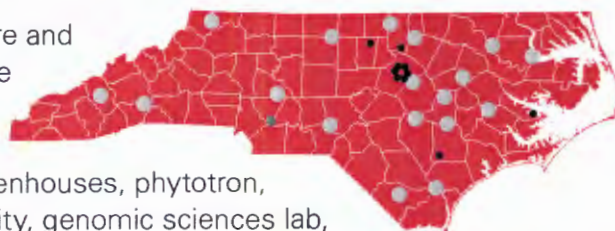
The Plant Sciences Initiative is based on an interdisciplinary systems approach. North Carolina's agriculture and biosciences assets, concentrated in a new world-class interdisciplinary research complex, will lead to increased crop yields, nutrition diversification, sustainability and an extended growing season.

North Carolina is an enviable location to host such an initiative. It is the nation's third most diverse agricultural state, offering nearly all climatic and soil conditions, and a strong agricultural economy. Leading global biotechnology companies have headquarters or major facilities in Research Triangle Park. NC State University has the largest plant breeding program in the world.

The College of Agriculture and Life Sciences at NC State has 10 field laboratories in addition to its core

research facilities — greenhouses, phytotron, biological resources facility, genomic sciences lab, feed mill, and poultry and animal waste research center.

It also oversees 18 off-campus research stations in partnership with the N.C. Department of Agriculture and Consumer Services.



Additionally, CALS is a partner in the Center for Environmental Farming Systems (CEFS) near Goldsboro, and runs the Plants for Human Health Institute at the N.C. Research Campus in Kannapolis.

Collectively, our existing assets and unparalleled research enterprise create a truly unique opportunity for North Carolina to establish itself as the world leader in plant sciences. Your community and those across the globe will benefit from enhancements in food security, production practices, water resources, nutrition and environmental sustainability.

The Plant Sciences Research Complex at NC State University will be the engine to transform these assets into economic impact for our state. Join us in the quest to secure \$180 million to establish North Carolina as the world leader in plant sciences research and innovation.



1. Plant Sciences Research Complex
2. BTEC (Golden LEAF Biomanufacturing Training and Education Center)
3. Partners II building and greenhouse
4. Engineering I, II, III buildings
5. James B. Hunt Jr. Library

■ Completed structures
■ Planned structures



Plant Science Research Complex

Located at the heart of NC State's world renowned Centennial Campus, the complex incorporates key features to make it the premier interdisciplinary plant sciences research center in the nation:

- Leasable corporate lab suites
- Leasable startup suites
- Atrium collaborative space
- Faculty labs and offices
Accommodates Plant Sciences research faculty plus incubator and startup project faculty
- 30,000 sq. ft. rooftop greenhouse
10,000 sq. ft. biosafety level 3 compliant
- Partners II greenhouse access
- Plant processing laboratory for integration with BTEC facility
Biosafety level 2 compliant
- Seminar/classroom space
- Administrative suite

For more information, please contact

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slommel@ncsu.edu 919.515.2717

POSITION YOURSELF FOR SUCCESS

A Prospective Student's Guide for Admission to CALS

NC STATE
UNIVERSITY

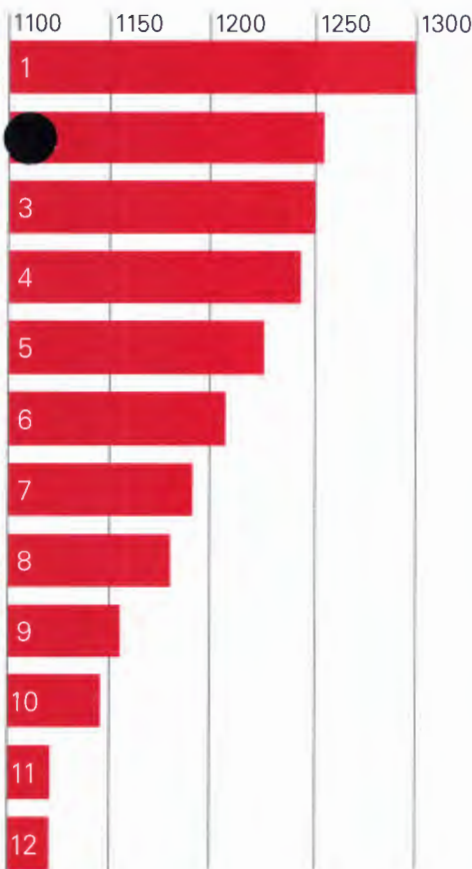
College of Agriculture
and Life Sciences

4.4

Average high school
GPA of students
admitted to CALS.

Average SAT
score for
incoming
freshmen

1225



1. Biochemistry
2. Food Science
3. Food Processing Science
4. Nutrition
5. Animal Science
6. Food Science
7. Crop Science
8. Horticulture
9. Agricultural Business
10. Turfgrass
11. Poultry Science
12. Plant Biology

Start Preparing Early

When we tell prospective students that their freshman year is more important than their senior year, most look puzzled. When you apply for admission to NC State, your freshman grades will be factored into your high school GPA; it is likely your senior grades will not. Developing good study habits early in high school will pay dividends for years to come.

Challenge yourself

The average high school grade point average (HSGPA) for students admitted to CALS is about 4.40. Consider honors or AP courses.

Take Standardized Tests Multiple Times

Whether it's the SAT or ACT, take the test more than once. A majority (55%) of students who took the SAT as a junior scored higher as a senior. On average the increase was modest, about 40 points for the combined critical reading, mathematics, and writing.

Consider ASPIRE or Standardized Test Prep

ACT Supplemental Preparation in Rural Education (ASPIRE) is a low cost initiative offered by CALS to rural students in more than 30 North Carolina counties. ASPIRE students have routinely seen an improvement of 100 points on SAT scores.

Know Your Competition

For the past three years, NC State received more than 20,000 applications — twice the number we received just 20 years ago.



ADMITTED AS FRESHMAN

Application accepted based on strong academic record and test scores



ASPIRE PROGRAM IN HIGH SCHOOL

ADMITTED AS FRESHMAN

Strong potential, but needs support to excel on entrance exams



STEAM PROGRAM PLUS 1 YEAR COMMUNITY COLLEGE

ADMITTED AS SOPHMORE

Strong potential, but needs support to build academic capacity



2 YEARS COMMUNITY COLLEGE

ADMITTED AS JUNIOR

Admitted through articulation agreements with community colleges

Explore Alternatives

Because interest in NC State programs has grown dramatically, there simply isn't enough space to accommodate all students hoping to attend. If you are not admitted as an incoming freshman, what are your options?

Transfer Students

Between 2011 and 2020, new transfers admissions will increase by 38%. Many CALS programs will require a transfer GPA of 3.0 and at least 30 transferable hours.

58.5%

of admitted students are in the top 10% of their high school class

Student Transfer Enrollment Advising and Mentoring (STEAM) Program.

STEAM is an invitation-only program designed to make higher education more accessible to well-qualified rural North Carolina students who were not admitted as freshman.

Interested students must apply to a CALS agriculturally-related major as an incoming freshmen. STEAM students attend Summer Session II at NC State immediately following high school graduation. Upon completion of program requirements they receive guaranteed admission to an agriculturally related major in CALS.

The Agricultural Institute

The Agricultural Institute (AGI) grants a two-year Associate of Applied Science (AAS) Degree. In the Agricultural Institute students receive practical training while focusing on six possible majors and hundreds of career opportunities. Upon completion of their AAS degree students can apply to the four year program as a transfer student.

We're your CALS Academic Advisors and are here to help. Please contact us today.

Kimber Lunsford

kimber_lunsford@ncsu.edu

Joanna Eglinton

joanna_eglinton@ncsu.edu

NC State University ■ Campus Box 7642 ■ Raleigh, NC 27695 ■ 919.515.2614

**NC STATE
UNIVERSITY**

College of Agriculture
and Life Sciences

Committee Sergeants at Arms

NAME OF COMMITTEE AGRICULTURE

DATE: 2-24-2015 Room: 643

House Sgt-At Arms:

1. Name: BILL BASS

2. Name: MARK CONE

3. Name: JOE CROOK

4. Name: _____

5. Name: _____

Senate Sgt-At Arms:

1. Name: _____

2. Name: _____

3. Name: _____

4. Name: _____

5. Name: _____



Tuesday, February 24
AGRICULTURE

Room
643

Time
1:00 pm

Name	County	Sponsor
Harrison McNeill	Randolph	Allen McNeill
Aaron Kennedy	Cumberland	John Szoka
Hope Kim	Orange	Verla Insko
Marc vonReppert	Stanly	Justin P. Burr



VISITOR REGISTRATION SHEET

House Committee on Agriculture

Name of Committee

February 24, 2015

Date _____

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME _____

FIRM OR AGENCY AND ADDRESS

John Elms

JDA

by which

NSDA

Jackson School

125

Marshall Stewart

WCSU

Matt Dackin

NC DENR

CS 40/13

CS ✓



VISITOR REGISTRATION SHEET

House Committee on Agriculture

Name of Committee

February 24, 2015

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME _____

FIRM OR AGENCY AND ADDRESS

Deans Eatman

NCSU

Kewin Hood

NCSU

Bu. K. 7

D.

a

АКУРС

Paul Sherron

ac FB



**House Committee on Agriculture
Tuesday, March 10, 2015 at 1:00 PM
Room 643 of the Legislative Office Building**

MINUTES

The House Committee on Agriculture met at 1:00 PM on March 10, 2015 in Room 643 of the Legislative Office Building. Representatives. The House Committee on Agriculture met at 1:00 PM on March 10, 2015 in Room 643 of the Legislative Office Building. Representatives Ager, J. Bell, Bradford, Brockman, Brody, Cleveland, Collins, Daughtry, Dixon, Earle, G. Graham, Holley, Hunter, Jones, Langdon, Lucas, S. Martin, McGrady, Pittman, Presnell, Queen, Riddell, Steinburg, R. Turner, Waddell, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

Representative James H. Langdon, Jr., Chair, presided.

Rep. Langdon welcomes everyone to meeting and goes over the agenda for committee meeting.
(Commissioner Troxler from Dept. of Agriculture is guest speaker)

Rep. Langdon turns time over to Commissioner Troxler

Comm. Troxler gives a broad overview of what Department has done and where they have the most urgent needs in upcoming budget.

NC earned \$5 billion in Exports. #1 in sweet potatoes in nation.

45% of sweet potatoes grown nationally are grown in NC.

\$168 million earned due to pollinators (bees, insects etc.)

Dept of Ag needs major modernization of Animal Diagnostic Labs and Equipment.

These are used to test for Diseases.

Vet nary Lab needs major upgrade to be able to continue testing animals here in NC.

Budget Issues: Ag Trust Fund and Preservation of Farm Land.1.8 Million \$ Annually

Need to add staff in FDA division for testing etc. If Fed's has to come back here to test something it cost our state so extra staff will help with that.

Forestry Service not only does it help in event of Fires but also saves businesses.

Food Process Task Force- recommended by the Govrn and Commissioner Troxler is one of members.

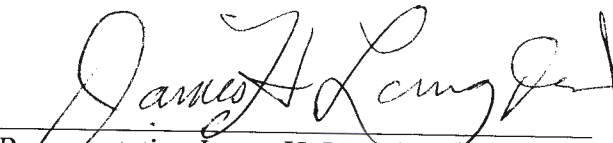
NCSU Science Plant Initiative Dean Linton at NCSU is heading this up and it will provide huge economic impact to NC.


Ports, Railways, good roads etc are all vital to Agriculture and NC.

A Couple of comments by members and then Rep.Langdon ask if there were any more questions. There were none.

The meeting adjourned at 1:31pm.




Representative James H. Langdon, Jr., Chair
Presiding


Michael Wiggins, Committee Clerk



**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Tuesday, March 10, 2015

TIME: 1:00 PM

LOCATION: 643 LOB

COMMENTS: North Carolina Agriculture Commissioner Steve Troxler will speak to the committee.

Respectfully,

Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 1:07 PM on Tuesday, August 18, 2015.

____ Principal Clerk
____ Reading Clerk – House Chamber

Michael Wiggins (Committee Assistant)



ATTENDANCE

HOUSE COMMITTEE ON AGRICULTURE

(Name of Committee)

[illegible]



Committee Sergeants at Arms

NAME OF COMMITTEE House Committee on Agriculture

DATE: 03/10/15 Room: 643

House Sgt-At Arms:

1. Name: Young Bae

2. Name: Bill Morris

3. Name: Jim Moran

4. Name: _____

5. Name: _____

Senate Sgt-At Arms:

1. Name: _____

2. Name: _____

3. Name: _____

4. Name: _____

5. Name: _____



Tuesday, March 10
AGRICULTURE

Room
643

Time
1:00 pm

Name	County	Sponsor
David Mahan	Moore	Garland E. Pierce
Miles Hunt	Wake	Rosa U. Gill
Yates McConnell	Chatham	Robert T. Reives, II



VISITOR REGISTRATION SHEET

House Committee on Agriculture

03/10/15

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Sarah Wolfe	muk
Philip Barfoot	muk
Emily Cleveland	—
Jared Cates	CFSA
Jamsey Stancil	CLS
Paul Hogewerf	Inform
Michael Houser	THCG
JOHN COOPER	CAPITAL C: TX STATES: ES: ES
Angie Maier	NPC
Tommy Stevens	Stevens Consulting



VISITOR REGISTRATION SHEET

House Committee on Agriculture

Name of Committee

03/10/15

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Will Culpeper

MVA

Donna Clark

UNC DOG

Hugh Johnson

NCACC

ANDY WALSH

SA

Rhian Merwald

Williams mullen

David McGowan

NCPC



**House Committee on Agriculture
Tuesday, March 17, 2015 at 1:00 PM
Room 643 of the Legislative Office Building**

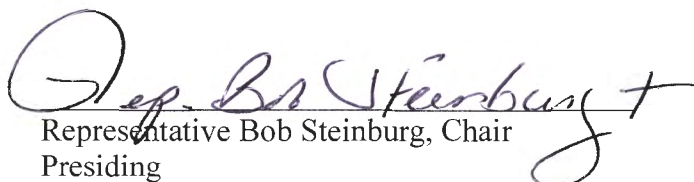

MINUTES

The House Committee on Agriculture met at 1:00 PM on March 17, 2015 in Room 643 of the Legislative Office Building. Representatives Ager, Bradford, Brockman, Brody, Cleveland, Collins, Daughtry, Dixon, Graham, Graham, Holley, Hunter, Langdon, Lucas, Martin, Pittman, Presnell, Queen, Reives, Riddell, Steinburg, Turner, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

Chairman Steinburg presided.

Dr. William Showers: Professor, Department of Marine, Earth & Atmospheric Sciences, North Carolina State University and Vice Chairman of the North Carolina Water Quality Workgroup from 1999-present gave a presentation on Water Quality and Water Shed Improvements.

The meeting adjourned at 1:42 PM.

 Representative Bob Steinburg, Chair Presiding	 Bethany Hudson, Committee Clerk
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**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Tuesday, March 17, 2015

TIME: 15 minutes after Appropriations meeting ends

LOCATION: 643 LOB

COMMENTS: Dr. William Showers: PROFESSOR, Department of Marine, Earth & Atmospheric Sciences, North Carolina State University

VICE CHAIRMAN North Carolina Water Quality Workgroup 1999-Present

Topic: Water Quality and Water Shed Improvements

Respectfully,

Representative Mark Brody, Co-Chair

Representative Jimmy Dixon, Co-Chair

Representative James H. Langdon, Jr., Co-Chair

Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 2:24 PM on Monday, July 11, 2016.

____ Principal Clerk

____ Reading Clerk – House Chamber

Bethany Hudson (Committee Assistant)



**House Committee on Agriculture
Tuesday, March 17, 2015, 1:00pm
Legislative Office Building 643**

AGENDA

Welcome and Opening Remarks

Introduction of Pages

Presentations

**Dr. William Showers: Professor, Department of Marine, Earth & Atmospheric
Sciences, North Carolina State University
Vice Chairman North Carolina Water Quality Workgroup 1999-Present
Topic: Water Quality and Water Shed Improvements**

Other Business

Adjournment



ATTENDANCE

House Committee on Agriculture

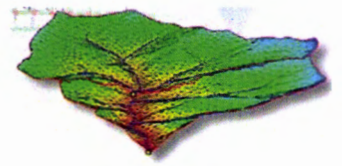
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NC Partnership for Watershed Sustainability



Dr. William Showers
Professor, Dept. of Marine, Earth & Atmospheric Sciences
College of Sciences
NCSU email: w_showers@ncsu.edu

This white paper outlines a partnership between NC State University, NCDA, and NCDENR to take a watershed approach to define critical areas in agricultural watersheds to improve and remediate surface water quality and make North Carolina Agriculture Sustainable in terms on nutrient export to rivers, lakes and streams.

National Importance of North Carolina Agriculture

There are ~7 billion people on the Earth today, about 80 million more are added every year, and approximately 1 billion people are hungry on a daily basis. Scientific and technological advances have impacted all facets of agriculture, including computer-controlled GPS-guided tractors, nutrient managed and monitored fields to maximize crop yields, genetically modified disease resistant crops, and a veritable revolution in the arena of livestock breeding. These evolving agricultural practices have meant greater productivity and prosperity for our citizens, but agriculture will have to do more with less in the near future with shifting climate patterns and an increased global demand for food. ***This is both an opportunity and a challenge for our state.***

Global climate models predict that North Carolina will have small increases in temperature and water availability, in contrast to the Midwestern states which will become increasingly arid. North Carolina will become a primary center of agricultural production, and become important to the national security and the stability of the country. ***North Carolina's rural agricultural areas are a vital national resource that must be managed wisely to protect the prosperity and well-being of future generations.***

Water Quality and Sustainable Agriculture

Water quality is vital for the success of agriculture, and in turn, proper agriculture management practices are necessary to meet domestic water quality standards and provide for ecosystem health. The United States has more than 330 million acres of agricultural land that produce an abundant supply of food and other products. American agriculture is noted worldwide for its high productivity, quality and efficiency in delivering goods to the consumer. When improperly managed, activities from working farms and ranches can affect water quality. Management of water resources in agricultural areas can be significantly improved by recent advances in spatial analysis and modeling, online digital databases, and new technologies for monitoring water chemistry.



National Water Quality Initiative

In 2012, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) launched the National Water Quality Initiative (NWQI) in collaboration with the Environmental Protection Agency (EPA) and state water quality agencies to reduce nonpoint sources of nutrients, sediment, and pathogens related to agriculture. Water quality monitoring plays a critical role in the NWQI. State water quality agencies are assessing progress through in-stream water quality monitoring in at least one watershed per state using Clean Water Act Section 319 or other funds. The objective of NWQI instream monitoring is to assess whether water quality and/or biological condition related to nutrients, sediments, or livestock-related pathogens has changed in the watershed, and if so whether this can be associated with agricultural conservation practices. Through EQIP (Environmental Quality Incentives Program - USDA) edge-of-field monitoring projects are taking place in a select number of NWQI watersheds in order to assess the impact of conservation practices at the field scale.

In North Carolina, the North Carolina Division of Soil and Water Conservation provides programs, technical services and educational outreach promoting voluntary natural resource management and conservation on the private lands of NC through a non-regulatory, incentive-driven approach. The division is recognized as having one of the nation's top soil and water conservation programs for private lands. This effort is achieved through a conservation partnership comprised of the state division, local soil and water conservation districts and the United States Department of Agriculture Natural Resource Conservation Service, as well as private and nonprofit entities. But these national and state efforts have been focused on field scale projects. With advances in spatial analysis, hydrology, biogeochemistry, geophysics, soil science and biological-agricultural engineering these efforts can be scaled up to watershed and sub-basin scales to have greater success in improving water quality and quantifying impacts upon receiving waters in a cost effective manner.

Watershed Sustainable Approaches

Effective sustainability in multi-use watersheds must incorporate advanced geospatial analytics and multi-disciplinary monitoring that makes use of advances in geochemical, geophysical and remote sensing technologies. Current water quality monitoring methods that employ infrequent grab samples cannot successfully couple with these new analytical approaches. Poorly designed sampling strategies commonly produce interpretation errors due to the complexity of the hydrologic system. This can lead to erroneous conclusions and expensive remediation efforts that do not address the critical nutrient water quality problems. New monitoring technologies including optical analyzers can collect hydrographic water quality data with sufficient detail in a cost effective manner to couple into state-of-the-art watershed models. Combined with laboratory ground-truthing, far more actionable information can be acquired for a watershed.

In a watershed scale approach, water quality monitoring is done at the bottom of the basin to document improvements in the discharge to receiving waters at a proper interval to correctly characterize the hydrographic variations. Watershed associations that contain all the stakeholders in the watershed are formed, and meet regularly to review results and discuss issues that concern each individual watershed. It is especially important that agricultural producers understand and take ownership of their individual watersheds, and participate in incentive based non-regulatory cost share programs to make watershed improvements that will yield cost effective results to protect water quality in North Carolina.



NCCWS Partnerships

NC State University is the logical location for a partnership to promote and develop data-driven approaches to watershed sustainability. The University has significant strengths in water and resource sustainability research in multiple colleges including CNR, CALS, CHASS, COS, Design and Engineering. While NCSU has the scientific expertise required to implement this new generation of watershed scale efforts, the NC Division of Soil and Water Conservation and NC Agricultural Extension has the partnerships with agricultural producers and the incentive program infrastructure necessary to put conservation measures into practice across the North Carolina landscape. NC DENR has experience in dealing with hydrological resources on a watershed scale. This center would create a forum for sustained interaction among faculty and facilities that have a rich set of interdisciplinary capabilities, with the NC Department of Agriculture, Division of Soil and Water Conservation, and the NC Cooperative Extension.

NCCWS Costs

Resources at the University level are needed for startup equipment, faculty, technician and student support, and direct costs for analytical and field supplies to support innovations in watershed monitoring and analysis. No building or new physical structures are required. Resources also are needed for Soil and Water Conservation and NC COOP Extension personnel to act as liaisons with the NC State Faculty and to participate in the center. The NCSU program enhancement budget is listed below.

NCCWS Benefits

In the State of the State address on February 4, 2015, Governor McCrory stated that *"We must walk the fine line between our continued economic prosperity while also protecting the quality of life..."* By combining the significant interdisciplinary resources of our land grant university with the NCDA Division of Soil and Water Conservation and the NC Agricultural Co-operative Extension programs we can take an innovative approach to protecting North Carolina's rural agricultural areas and economic viability. The land grant university brings an interdisciplinary innovative systems approach that can bring a new focus to a continuing public concern. The NCDA has the non-regulatory, incentive-driven watershed improvement program, and the NC Ag Co-Op Extension have existing partnerships with agricultural producers and provide direction for the most critical areas that need improvement. Combining these resources will require little spin up time and progress to improve and document water quality changes in critical watersheds can be accomplished in real time by using this watershed systems approach.

VISITOR REGISTRATION SHEET

House Committee on Agriculture

3/17/2015

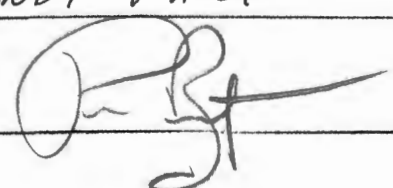
Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Joy Archer	NCDACCS
Mary Madigan Abbi	SELC
Tom BERP	EDF
Hugh Johnson	NCA
Rochelle Sparko	CFSA
Jared Cates	CFSA
Gray Jernigan	WKA
Maggie Monast	EDF
Gmly McIn	NC Cas anti Netw
ANDY WALSH	SA
	MWC



VISITOR REGISTRATION SHEET

House Committee on Agriculture

3/17

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

TJ Bugbee	NP
Paul Sherman	NCFB
Tommy Stevens	Stevens Lobby / Consulting
Angie Mair	NCRP
Jackson Frank	CCS
Steve Metcalf	The Policy Group
Chris Wall	Policy Group
Joncarr	NC RWA
Dougherty	NC STA
Jerry Schill	NCFR
Perry Huff	School 7 Har.



VISITOR REGISTRATION SHEET

House Committee on Agriculture

3/17/2015

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Cassie Gamm	Siena Club
Edgar Muhl	CTM
Brooks Peasey Pearson	SELC
Sam Blanton	Rep. Chuck McGrady
David Williams	NCDASCS / Soil & Water Cons
JAKE PARKER	NCFB
Chris Anderson	
Phil Carter	WASTE INDUSTRIES
J. P. Carter	ALCADA



House Committee on Agriculture
Tuesday, April 21, 2015 at 1:00 PM
Room 643 of the Legislative Office Building

MINUTES

The House Committee on Agriculture met at 1:00 PM on April 21, 2015 in Room 643 of the Legislative Office Building. Representatives. The House Committee on Agriculture met at 1:00 PM on April 21, 2015 in Room 643 of the Legislative Office Building. Representatives Ager, J. Bell, L. Bell, Bradford, Brisson, Brockman, Brody, Cleveland, Dixon, C. Graham, G. Graham, Holley, Hunter, Jones, Langdon, Lucas, S. Martin, McGrady, Pittman, Presnell, Riddell, Steinburg, R. Turner, Waddell, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

Representative Mark Brody, Chair, presided.

The following bills were considered:

HB 227 Broaden Sales Tax Exemption for Farmers. (Representatives Holloway, Whitmire, Riddell, Zachary): PCS H227-PCS10351-TQ-11

Rep. Brody moved that bill be heard before committee.

Rep. Holloway then explained the bill details. (Tax Exemption for smaller farmers and those just starting out. This will be benefit to those farmers who need help to get up and running.)

Rep. Holloway turned over the floor for Rep. Riddell to explain his amendment.

Rep. Ager motioned amendment be heard before committee.

Rep. Riddell moved to amend bill pg.1 lines 26 and 27 by re- writing those lines to read; Section 2 Act becomes effective July 1, 2015 and applies to exemption issued on or after that date." The Amendment passes.

After some discussion among the committee members

Rep. Cleveland moves to give unfavorable to original bill but favorable to committee substitute with a re-referral to Committee on Finance.

The motion passed.

HB 302 Strengthen Oyster Industry. (Representatives Tine, McElraft, Millis, Harrison)

PCS: H-302-PCS10347-R1-10; Long Title Amended

Rep. Brody (Presiding) calls on Rep. Tine to explain bill. Rep. Langdon moves to have PCS before the committee. Motion passes and Rep. Tine discusses the bill. Bill is a way to promote and strengthen NC Oyster Industry. It also restores joint oversight legislation commission on seafood and aquaculture. Helps preserve wetlands and sanctuary.

After some brief positive discussion among committee members.

Rep. Dixon moves that committee give a favorable report to PCS of HB 302 with unfavorable to original. Motion Passes with no referral.

HB 378 Amd. Criteria/Certain Ag. Cost-Share Pgms. (Representatives Whitmire, Holloway, West, Presnell) HB-378PCS10352-TQ-10



Rep. Brody ask for a motion for the PCS to be heard in committee. Rep. Langdon moves to have PCS to HB378 heard in committee. Motion passes.

Rep. Brody calls on Rep. Whitmire to explain bill. Bill is a way to provide alternate forms of documentation to participate in Certain Agriculture Cost Sharing Programs. Applicants must show that they are a bona fide farm to participate.

Rep. Dixon moves to give a favorable report to the PCS for HB 378 unfavorable to the original. Motion passes and no referral.

HB 553 Ordinances Regulating Animals. (Representatives McGrady, Whitmire, Langdon, Dixon)PCS: HB553-PCS20320-TS-3

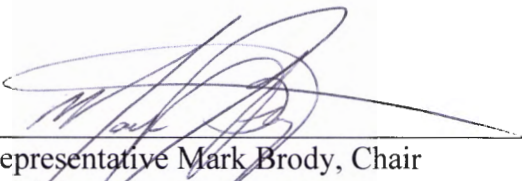
Rep. Brody moves and calls on Rep. McGrady to discuss the bill.

Rep. McGrady explains that bill is act to amend a county or cities power to enact certain animal ordinances that are burdensome. It places limitations on standards of care that counties or cities may impose. Such as structures and need for repair. Types of feed and or medicine they can be given, exercise etc.

After some brief comments by committee members Rep. Brody calls on Rep. Cleveland for a motion. Rep. Cleveland moves that PCS for HB553 be given a favorable report unfavorable to original with no referral. Motion passes .

Rep. Brody ask if any comments or questions from members? Hearing none

The meeting adjourned at 1:40pm.



Representative Mark Brody, Chair
Presiding



Michael Wiggins, Committee Clerk



ATTENDANCE

HOUSE AGRICULTURE

(Name of Committee)

DATES	4/21/15															
Dixon	✓															
Langdon	✓															
Brody	✓															
Steinburg	out															
C. Graham	✓															
G. Graham	✓															
Brisson	✓															
Lucas	✓															
Yarborough	✓															
Zachary	✓															
Ager	✓															
J.Bell	✓															
L.Bell	✓															
Bradford	✓															
Brockman	✓															
Cleveland	✓															
Collins																
Daughtry																
Earle																
Holley	✓															
Hunter	✓															
Jones	✓															
Lewis																
S.Martin	✓															
McGrady	✓															
Pittman	✓															



(Name of Committee)

[illegible]



**NORTH CAROLINA GENERAL ASSEMBLY
HOUSE OF REPRESENTATIVES**

**AGRICULTURE COMMITTEE REPORT
Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair**

FAVORABLE COM SUB , UNFAVORABLE ORIGINAL BILL

HB 302	Strengthen Oyster Industry.
	Draft Number: H302-PCS10347-R1-10
	Serial Referral: None
	Recommended Referral: None
	Long Title Amended: Yes
	Floor Manager: Tine
HB 378	Amd. Criteria/Certain Ag. Cost-Share Pgms.
	Draft Number: H378-PCS10352-TQ-10
	Serial Referral: None
	Recommended Referral: None
	Long Title Amended: No
	Floor Manager: Whitmire
HB 553	Ordinances Regulating Animals.
	Draft Number: H553-PCS20320-TS-3
	Serial Referral: None
	Recommended Referral: None
	Long Title Amended: No
	Floor Manager: McGrady

FAVORABLE COM SUB , UNFAVORABLE ORIGINAL BILL AND RE-REFERRED

HB 227	Broaden Sales Tax Exemption for Farmers.
	Draft Number: H227-PCS10351-TQ-11
	Serial Referral: FINANCE
	Recommended Referral: None
	Long Title Amended: No
	Floor Manager: Holloway

TOTAL REPORTED: 4





Date: 4-21-15

Bill Number 302

PCS ✓ 10347-R1-10

Motion to be before the committee by Rep Langdon to hear PCS

Rep TINE explained the bill.

Discussion on the Bill YES or NO

Rep DIXON motioned for:

 Favorable Report

 Adoption

 Unfavorable Report

 ✓ Unfavorable to original bill, fav to PCS

 No vote

Amendments: : Technical Corrections

Serial referral to: NONE SANCTUARY

Speakers: Rep. TINE

Handouts: Bill, PCS, Bill Summary
Restores Joint Reg Oversight
Commission on
Seafood &
Aquaculture



Date: 4-21-15

Bill Number 378

PCS H378-CSTQ-10

Motion to be before the committee by Cleveland

Rep Whitmire explained the bill.

Discussion on the Bill ☒ YES or NO

Rep Dixon motioned for:

☐ Favorable Report

☐ Adoption

☒ Unfavorable Report

☒ Unfavorable to original bill, fav to PCS

☐ No vote

Amendments: : _____

Serial referral to: _____

Speakers: Rep. Whitmire; Rep.

Handouts: Orig. Bill; PCS, Summary



Date: 4-21-15

Bill Number 553

PCS ☒

Motion to be before the committee by Rep. Brody

Rep McGrady explained the bill.

Discussion on the Bill ☒ YES or NO

Rep Cleveland motioned for:

☐ Favorable Report

☐ Adoption

☐ Unfavorable Report

☒ Unfavorable to original bill, fav to PCS

☐ No vote

Amendments: : _____

Serial referral to: NONE

Speakers: McGrady

Handouts: PCS, Bill, Bill Summary



Date: 4-21-15

Bill Number 227

PCS _____

Motion to be before the committee by Rep. Brody

Rep Holloway explained the bill.

Discussion on the Bill (YES) or NO

Rep ~~AGER~~ ^{Admnd} / Cleveland - Bill motioned for:

☒ Favorable Report

☐ Adoption

☐ Unfavorable Report

☐ Unfavorable to original bill, fav to PCS

☐ No vote

✓ Amendments: : H 227- ATQ-10

Serial referral to: FINANCE

Speakers: Rep. Holloway / Rep. Riddell - Admndment
Rep. Witmire

Handouts: Admndment, Orig. Bill



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

H

D

HOUSE BILL 302
PROPOSED COMMITTEE SUBSTITUTE H302-PCS10347-RI-10

Short Title: Strengthen Oyster Industry.

(Public)

Sponsors:

Referred to:

March 19, 2015

A BILL TO BE ENTITLED

AN ACT TO STRENGTHEN AND PROTECT THE OYSTER INDUSTRY IN NORTH
CAROLINA AND TO AMEND THE SEDIMENTATION POLLUTION CONTROL ACT
TO EXEMPT ACTIVITIES TO RESTORE THE WETLANDS FUNCTION OF PRIOR
CONVERTED CROPLAND.

The General Assembly of North Carolina enacts:

STUDY SHELLFISH AQUACULTURE

SECTION 1. The Division of Marine Fisheries of the Department of Environment and Natural Resources shall study North Carolina's shellfish lease and franchise program, including (i) the regulatory, statutory, and other obstacles faced by the private shellfish aquaculture industry in establishing or expanding shellfish cultivation operations; (ii) a summary of shellfish leasing and franchising programs in other states and a comparison of the private shellfish aquaculture industry in North Carolina compared to other states; (iii) the economic and logistical feasibility for public-private partnerships to engage in State-based production of viable oyster seed through the creation of one or more production hatcheries in North Carolina; and (iv) recommendations for best practices to achieve greater opportunities for North Carolina's shellfish aquaculture industry and greater program efficiencies and outcomes, including the development of a 10-year plan for the encouragement and enhancement of shellfish aquaculture. The Division shall report its findings and recommendations, along with an update on the implementation of Section 3 of this act, no later than April 1, 2016, to the Chairs of the Environmental Review Commission, the Chairs of the House of Representatives Appropriations Committee on Agriculture and Natural and Economic Resources, the Chairs of the Senate Appropriations Committee on Natural and Economic Resources, and the Fiscal Research Division.

CIVIL PENALTY AUTHORITY FOR CERTAIN SHELLFISH OFFENSES

SECTION 2. Article 16 of the General Statutes is amended by adding a new section to read:

"§ 113-211. Civil penalties.

(a) A civil penalty of not more than ten thousand dollars (\$10,000) may be assessed by the Secretary against any person who does any of the following:

- (1) Takes or attempts to take shellfish in violation of G.S. 113-208 or who takes, destroys, or damages equipment or structures used for the cultivation of shellfish pursuant to and within the confines of a lease or franchise granted under the provisions of this Article.



* H 3 0 2 - P C S 1 0 3 4 7 - R I - 1 0 *



(2) Takes or attempts to take shellfish in violation of G.S. 113-209 from areas closed to harvest by statute, rule, or proclamation.

(3) Takes or attempts to take shellfish from an area designated as an oyster sanctuary by the Division of Marine Resources of the Department.

(b) In determining the amount of the penalty, the Secretary shall consider the factors set out in G.S. 143B-289.53(b), as well as the level of damage to the natural resources of the State, and, in the case of penalties levied under subdivision (a)(1) of this section, the amount and severity of physical and economic damage to the shellfish aquaculture operations of the holder of the lease or franchise. The procedures set out in G.S. 143B-289.53 shall apply to civil penalty assessments that are presented to the Commission for final agency decision.

(c) The Secretary shall notify any person assessed a civil penalty of the assessment and the specific reasons therefor by registered or certified mail or by any means authorized by G.S. 1A-1, Rule 4. Contested case petitions shall be filed pursuant to G.S. 150B-23 within 30 days of receipt of the notice of assessment.

(d) Requests for remission of civil penalties shall be filed with the Secretary. Remission requests shall not be considered unless filed within 30 days of receipt of the notice of assessment. Remission requests must be accompanied by a waiver of the right to a contested case hearing pursuant to Chapter 150B of the General Statutes and a stipulation of the facts on which the assessment was based. Consistent with the limitations in G.S. 143B-289.53(c), remission requests may be resolved by the Secretary and the violator. If the Secretary and the violator are unable to resolve the request, the Secretary shall deliver remission requests and the Secretary's recommended action to the Committee on Civil Penalty Remissions of the Marine Fisheries Commission appointed pursuant to G.S. 143B-289.53(c).

(e) If any civil penalty has not been paid within 30 days after notice of assessment has been served on the violator, the Secretary shall request the Attorney General to institute a civil action in the superior court of any county in which the violator resides or has the violator's principal place of business to recover the amount of the assessment, unless the violator contests the assessment as provided in subsection (c) of this section or requests remission of the assessment in whole or in part as provided in subsection (d) of this section. If any civil penalty has not been paid within 30 days after the final agency decision or court order has been served on the violator, the Secretary shall request the Attorney General to institute a civil action in the superior court of any county in which the violator resides or has the violator's principal place of business to recover the amount of the assessment. Civil actions must be filed within three years of the date the final agency decision or court order was served on the violator."

AMEND SENATOR JEAN PRESTON MARINE SHELLFISH SANCTUARY LEGISLATION

SECTION 3. Section 44 of S.L. 2014-120 reads as rewritten:

"SENATOR JEAN PRESTON MARINE ~~SHELLFISH~~ OYSTER SANCTUARY PROGRAM

"SECTION 44.(a) It is the intent of the General Assembly to establish a marine shellfish sanctuary in the Pamlico Sound to be named in honor of former Senator Jean Preston, to be called the "Senator Jean Preston Marine Shellfish Sanctuary," to enhance shellfish habitat within the Albemarle and Pamlico Sounds and their tributaries to benefit fisheries, water quality, and the economy. This will be achieved through the establishment of a network of oyster sanctuaries, harvestable enhancement sites, and coordinated support for the development of shellfish aquaculture. The network of oyster sanctuaries is to be named in honor of Senator Jean Preston and will be called the "Senator Jean Preston Oyster Sanctuary Network."

"SECTION 44.(b) The Division of Marine Fisheries of the Department of Environment and Natural Resources shall designate an area of appropriate acreage within the Pamlico Sound



as a recommendation to the Environmental Review Commission for establishment of the "Senator Jean Preston Marine Shellfish Sanctuary" and create a plan for managing the sanctuary that includes develop a plan to construct and manage additional oyster habitat. The new sanctuaries, along with selected existing oyster sanctuaries, will be included in the Senator Jean Preston Oyster Sanctuary Network. The plan will include the following components:

- (1) Location and delineation of the sanctuary. — oyster sanctuaries. — The plan should include a location~~locations~~ for the sanctuary~~sanctuary network~~ components that minimizes~~minimize~~ the impact on commercial trawling. In addition, the sanctuary should be gridded into areas leased to private parties for restoration and harvest and areas operated and maintained by the State for restoration that are not open for harvest. The leased and unleased areas should be arranged in a pattern where leased squares are surrounded on four sides by unleased squares. The location of sanctuaries shall take into account connectivity to existing oyster sanctuaries and proposed oyster enhancement sites. New oyster sanctuaries shall be designed to provide hook-and-line fishing while allowing the development of complex fish habitat and brood-stock oysters that will enhance recruitment in the surrounding reefs. The plan should outline a 10-year development project to accomplish the expansion.
- (2) Administration. — The plan should include the prices to be charged for the leased portions of the sanctuary, including an administration fee to be retained by the Division to support the leasing and monitoring program. The plan shall also provide that the balance of lease payments collected by the Division be transferred to the General Fund with a recommendation that some or all of the proceeds be used for the support of the State's special education programs in memory of Senator Jean Preston.
- (3) Enhancement of oyster habitat restoration. — The General Assembly finds that the lack of a reliable State-based supply of oyster seed and inadequate funding for cultch planting are limitations to the expansion of oyster harvesting and the restoration of wild oyster habitat in North Carolina. Therefore, the plan should include the following:
 - a. Provisions and recommendations to facilitate the availability of oyster seed produced in North Carolina for wild oyster habitat restoration projects as well as oyster aquaculture and to reduce potential negative impacts from importation of non-native oyster seed.
 - b. Plans, where feasible, for public-private partnerships for State-based production of viable oyster seed through the creation of one or more production hatcheries and recommendations for increased support of the existing research hatchery at UNC-Wilmington.
 - c. Plans and cost estimates for an expansion of cultch planting in suitable areas of the State's coastal waters in order to expand areas suitable for development of wild oyster habitat.
- (4) Economic relief. — The plan should consider a waiver of application fees and yearly rental fees for new shellfish leases for an established period of time to further promote and support shellfish aquaculture in North Carolina. The new leasing fee waiver program should include measures to discourage speculation and target persons with a genuine interest in starting a shellfish aquaculture business, such as a requirement that the lease be nontransferable for a five-year period.



(5) Outreach. – The plan should include outreach and education that promotes, whenever possible, public-private partnerships utilizing the Sea Grant College Program, local colleges and other nongovernmental organizations to (i) encourage shellfish aquaculture and provide technical assistance to broaden cost-effective technologies available to leaseholders; (ii) encourage best management practices to leaseholders; and (iii) inform fishermen and the public on the benefits provided by the Senator Jean Preston Oyster Sanctuary Network.

(6) Monitoring. – The plan should include a monitoring plan designed to (i) determine the success of oyster reef construction and (ii) evaluate the cost benefit of the oyster sanctuary network and harvestable enhancement sites.

~~(3)(7)~~ Funding. – The plan should include a request for appropriations sufficient to provide funds for the construction of appropriate bottom habitat and shellfish seeding and for Division staff necessary to conduct oyster restoration and monitoring activities. The plan should provide that, whenever possible, construction and shellfish seeding be carried out by contract with private entities for Division staff to expand oyster restoration and monitoring activities for 10 years. The plan should provide that, whenever possible, public-private partnerships are employed to meet the construction, seeding, and outreach requirements of the plan.

~~(4)~~ Commercial fisherman relief. – To promote the diversification of commercial fishing opportunities, the plan should include a program to award free or discounted leases under this section to commercial fishermen who (i) have held one or more commercial fishing licenses continually for a period of 10 or more years and (ii) receive at least fifty percent (50%) of their income from commercial fishing with those licenses.

~~(5)(8)~~ Recommendations. – The plan should shall include recommendations for statutory or regulatory changes needed to expedite the expansion of shellfish restoration and harvesting in order to improve water quality, restore ecological habitats, provide enhanced recreational and commercial fishing opportunities, and expand the coastal economy.

~~"SECTION 44.(c) No later than December 1, 2014, and quarterly thereafter until submission of a final plan to the Environmental Review Commission, the Department of Environment and Natural Resources shall report to the Environmental Review Commission regarding its implementation of this section and its recommended plan."~~

CORE SOUND SHELLFISH LEASING

SECTION 4. The Division of Marine Fisheries of the Department of Environment and Natural Resources shall, in consultation with representatives of the commercial fishing industry, representatives of the shellfish aquaculture industry, and relevant federal agencies, create a proposal to open certain areas of Core Sound to shellfish cultivation leasing. The Division will report regarding the plan no later than May 1, 2016, to the Joint Legislative Commission on Governmental Operations.

RESTORE JOINT LEGISLATIVE OVERSIGHT COMMISSION ON SEAFOOD AND AQUACULTURE

SECTION 5.1. Subdivisions 1.2(a)(5) and 1.2(b)(3) and Sections 2.26 through 2.29 of S.L. 2011-291 are repealed, and Article 12F of Chapter 120 of the General Statutes, as it existed prior to its repeal by S.L. 2011-291, is reenacted.

SECTION 5.2. G.S. 120-76(15) is repealed.



SECTION 5.3. G.S. 120-70.62, as reenacted by Section 5.1 of this act, reads as rewritten:

"§ 120-70.62. Powers and duties.

The Commission shall have the following powers and duties:

- (1) To monitor and study the current seafood industry in North Carolina including studies of the feasibility of increasing the State's production, processing, and marketing of ~~seafood; seafood.~~
- (2) To study the potential for increasing the role of aquaculture in all regions of the ~~State; State.~~
- (3) To evaluate the feasibility of creating a central permitting office for fishing and aquaculture ~~matters; matters.~~
- (4) To evaluate actions of the Division of Marine Fisheries of the Department of Environment and Natural Resources, the Wildlife Resources ~~Commission of the Department of Environment and Natural Resources Commission,~~ and of any other board, commission, department, or agency of the State or local government as such actions relate to the seafood and aquaculture ~~industries; industries.~~
- (5) ~~To make recommendations regarding regulatory matters relating to the seafood and aquaculture industries including, but not limited to:~~
 - a. ~~Increasing the State's representation and decision-making ability by dividing the State between the Atlantic and South Atlantic regions of the National Division of Marine Fisheries; and~~
 - b. ~~Evaluating the necessity to substantially increase~~To evaluate the adequacy of penalties for trespass and theft of shellfish and other aquaculture ~~products; products.~~
- (6) To review and evaluate changes in federal law and regulations, relevant court decisions, and changes in technology affecting the seafood and aquaculture ~~industries; industries.~~
- (7) To review existing and proposed State law and rules affecting the seafood and aquaculture industries and to determine whether any modification of law or rules is in the public ~~interest; interest.~~
- (8) To make reports and recommendations, including draft legislation, to the General Assembly from time to time as to any matter relating to the powers and duties set out in this ~~section; and section.~~
- (9) To undertake such additional studies as it deems appropriate or as may from time to time be requested by the President of the Senate, the President Pro Tempore of the Senate, the Speaker of the House of Representatives, either house of the General Assembly, the Legislative Research Commission, or the Joint Legislative Commission on Governmental Operations, and to make such reports and recommendations to the General Assembly regarding such studies as it deems appropriate."

AMEND THE SEDIMENTATION POLLUTION CONTROL ACT TO EXEMPT ACTIVITIES TO RESTORE THE WETLANDS FUNCTION OF PRIOR CONVERTED CROPLAND

SECTION 6. G.S. 113A-52.01 is amended by adding a new subdivision to read:

"§ 113A-52.01. Applicability of this Article.

This Article shall not apply to the following land-disturbing activities:

- (1) Activities, including the breeding and grazing of livestock, undertaken on agricultural land for the production of plants and animals useful to man, including, but not limited to:



- a. Forages and sod crops, grains and feed crops, tobacco, cotton, and peanuts.
 - b. Dairy animals and dairy products.
 - c. Poultry and poultry products.
 - d. Livestock, including beef cattle, llamas, sheep, swine, horses, ponies, mules, and goats.
 - e. Bees and apiary products.
 - f. Fur producing animals.
- (2) Activities undertaken on forestland for the production and harvesting of timber and timber products and conducted in accordance with best management practices set out in Forest Practice Guidelines Related to Water Quality, as adopted by the Department.
- (3) Activities for which a permit is required under the Mining Act of 1971, Article 7 of Chapter 74 of the General Statutes.
- (4) For the duration of an emergency, activities essential to protect human life, including activities specified in an executive order issued under G.S. 166A-19.30(a)(5).
- (5) Activities undertaken pursuant to Natural Resources Conservation Service standards to restore the wetlands functions of converted wetlands as defined in 7 Code of Federal Regulations § 12.2 (January 1, 2014 Edition)."

EFFECTIVE DATE

SECTION 7. This act is effective when it becomes law.



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

H

D

HOUSE BILL 378
PROPOSED COMMITTEE SUBSTITUTE H378-CSTQ-10 [v.2]

4/17/2015 12:43:36 PM

Short Title: Amd. Criteria/Certain Ag. Cost-Share Pgms.

(Public)

Sponsors:

Referred to:

March 30, 2015

1 A BILL TO BE ENTITLED
2 AN ACT TO PROVIDE ALTERNATE FORMS OF DOCUMENTATION FOR
3 PARTICIPATION IN CERTAIN AGRICULTURAL COST-SHARE PROGRAMS.

4 The General Assembly of North Carolina enacts:

5 SECTION 1. G.S. 106-850(b)(10) reads as rewritten:

6 "(10) To be eligible for cost share funds under this program, each applicant must
7 establish that ~~he or she is engaged in farming by providing any of the~~
8 ~~following to the Soil and Water Conservation Commission with his or her~~
9 ~~application:~~

- 10 a. ~~A copy of the farm owner's or operator's federal tax Schedule F~~
11 ~~(Form 1040) or an equivalent form for the most recent tax year~~
12 ~~showing the owner's or operator's profit or loss from farming.~~
13 b. ~~A copy of the farm's agricultural exemption certificate issued to the~~
14 ~~farm owner or operator by the Department of Revenue.~~
15 c. ~~For forestland actively engaged in the commercial growing of trees~~
16 ~~under a sound management program as defined in G.S. 105-277.2(6),~~
17 ~~a copy of the sound forest management plan described in~~
18 ~~G.S. 105-277.3(g); the applicant meets the definition of a bona fide~~
19 ~~farm as described by G.S. 153A-340(b)(2)."~~

20 SECTION 2. G.S. 139-60(c1) reads as rewritten:

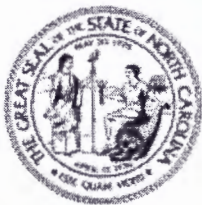
21 "(c1) To be eligible for assistance under this program, each applicant must establish that
22 ~~he or she is engaged in farming by providing to the Soil and Water Conservation Commission~~
23 ~~with his or her application:~~

- 24 (1) ~~A copy of the farm owner's or operator's federal tax Schedule F (Form 1040)~~
25 ~~or an equivalent form for the most recent tax year showing the owner's or~~
26 ~~operator's profit or loss from farming.~~
27 (2) ~~A copy of the farm's agricultural exemption certificate issued to the farm~~
28 ~~owner or operator by the Department of Revenue.~~
29 (3) ~~For forestland actively engaged in the commercial growing of trees under a~~
30 ~~sound management program as defined in G.S. 105-277.2(6), a copy of the~~
31 ~~sound forest management plan described in G.S. 105-277.3(g); the applicant~~
32 ~~meets the definition of a bona fide farm as described by~~
33 ~~G.S. 153A-340(b)(2)."~~

34 SECTION 3. This act is effective when it becomes law and applies to applications
35 submitted or pending on or after that date.







HOUSE BILL 378: Amd. Criteria/Certain Ag. Cost-Share Pgms

2015-2016 General Assembly

Committee:	House Agriculture	Date:	April 21, 2015
Introduced by:	Reps. Whitmire, Holloway, West, Presnell	Prepared by:	Chris Saunders
Analysis of:	PCS to First Edition H378-CSTQ-10		Committee Counsel

SUMMARY: *The Proposed Committee Substitute (PCS) for House Bill 378 would broaden the forms of documentation acceptable for eligibility for participation in two agriculture cost-share programs operated by the Soil and Water Conservation Commission, the Agriculture Cost Share Program for Nonpoint Source Pollution Control, and the Agricultural Water Resources Assistance Program (AgWRAP).*

The PCS makes a technical change to the effective date.

CURRENT LAW: An applicant must provide one of the following forms of documentation to be eligible for participation in the Agriculture Cost Share Program for Nonpoint Source Pollution Control or AgWRAP:

- A copy of the farm owner's or operator's federal tax Schedule F (Form 1040) or an equivalent form showing the owner's or operator's profit or loss from farming.
- A copy of the farm's agricultural exemption certificate issued to the farm owner or operator by the Department of Revenue.
- For forestland actively engaged in the commercial growing of trees under a sound management program, a copy of the sound forest management plan.

BACKGROUND: The Agriculture Cost Share Program for Nonpoint Source Pollution Control, created, implemented, and supervised by the Soil and Water Conservation Commission, is a voluntary program to reduce the input of agricultural nonpoint source pollution into the watercourses of the State.

The AgWRAP program, also implemented and supervised, by the Soil and Water Conservation Commission, is a program to identify opportunities to increase water use efficiency, availability and storage; implement best management practices to conserve and protect water resources; increase water use efficiency; and increase water storage and availability for agricultural purposes.

BILL ANALYSIS: The PCS would provide that an applicant for either the Agriculture Cost Share Program for Nonpoint Source Pollution Control or AgWRAP may prove his or her eligibility for either program by showing one of the following forms of documentation, which are also used as evidence of bona fide farm status for zoning purposes:

- A farm sales tax exemption certificate issued by the Department of Revenue.
- A copy of the property tax listing showing that the property is eligible for participation in the present use value program.
- A copy of the farm owner's or operator's Schedule F from the owner's or operator's most recent federal income tax return.

O. Walker Reagan
Director



* H 3 7 8 - S M T Q - 2 6 C S T Q - 1 0 - V 1 *

Research Division
(919) 733-2578



House Bill 378

Page 2

- A forest management plan.
- A Farm Identification Number issued by the United States Department of Agriculture Farm Service Agency.

EFFECTIVE DATE: This act would be effective when it becomes law, and applies to applications submitted or pending on or after that date.



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

H

D

HOUSE BILL 553
PROPOSED COMMITTEE SUBSTITUTE H553-CSTS-3 [v.1]

4/20/2015 3:25:15 PM

Short Title: Ordinances Regulating Animals.

(Public)

Sponsors:

Referred to:

April 6, 2015

1 A BILL TO BE ENTITLED
2 AN ACT TO AMEND THE AUTHORITY OF CITIES AND COUNTIES TO ADOPT
3 ORDINANCES REGARDING ANIMALS.

4 The General Assembly of North Carolina enacts:

5 **SECTION 1.** Article 6 of Chapter 153A of the General Statutes is amended by
6 adding a new section to read:

7 **"§ 153A-145.3. Limitations on standards of care for farm animals.**

8 Notwithstanding any other provision of law, no county ordinance may regulate standards of
9 care for farm animals. For purposes of this section, "standards of care for farm animals"
10 includes the following: the construction, repair, or improvement of farm animal shelter or
11 housing; restrictions on the types of feed or medicines that may be administered to farm
12 animals; and exercise and social interaction requirements. For purposes of this section, the term
13 "farm animals" includes the following domesticated animals: cattle, oxen, bison, sheep, swine,
14 goats, horses, ponies, mules, donkeys, hinnies, llamas, alpacas, lagomorphs, ratites, and
15 poultry."

16 **SECTION 2.** Article 8 of Chapter 160A of the General Statutes is amended by
17 adding a new section to read:

18 **"§ 160A-203.1. Limitations on standards of care for farm animals.**

19 Notwithstanding any other provision of law, no city ordinance may regulate standards of
20 care for farm animals. For purposes of this section, "standards of care for farm animals"
21 includes the following: the construction, repair, or improvement of farm animal shelter or
22 housing; restrictions on the types of feed or medicines that may be administered to farm
23 animals; and exercise and social interaction requirements. For purposes of this section, the term
24 "farm animals" includes the following domesticated animals: cattle, oxen, bison, sheep, swine,
25 goats, horses, ponies, mules, donkeys, hinnies, llamas, alpacas, lagomorphs, ratites, and
26 poultry."

27 **SECTION 3.** This act is effective when it becomes law.



* H 5 5 3 - C S T S - 3 - V - 1 *





HOUSE BILL 553: Ordinances Regulating Animals

2015-2016 General Assembly

Committee:	House Agriculture	Date:	April 21, 2015
Introduced by:	Reps. McGrady, Whitmire, Langdon, Dixon	Prepared by:	Layla Cummings
Analysis of:	PCS to First Edition H553-CSTS-3		Committee Counsel

SUMMARY: *The Proposed Committee Substitute (PCS) for House Bill 553 would limit the authority of cities and counties to enact ordinances regulating standards of care for farm animals.*

CURRENT LAW: The General Statutes authorize cities and counties to, by ordinance to:

- Define, regulate, prohibit, or abate acts, omissions, or conditions detrimental to the health, safety, or welfare of its citizens and the peace and dignity of the county; and may define and abate nuisances.
- Define and prohibit the abuse of animals.
- Regulate, restrict, or prohibit the possession or harboring within the city of animals which are dangerous to persons or property.

BILL ANALYSIS: The PCS would limit the authority of cities and counties to enact ordinances regulating standards of care for farm animals. Under the PCS, "farm animals" include the following domesticated animals: cattle, oxen, bison, sheep, swine, goats, horses, ponies, mules, donkeys, hinnies, llamas, alpacas, lagomorphs, ratites, and poultry; and "standards of care for farm animals" includes the construction, repair, or improvement of farm animal shelter or housing, restrictions on the type of feed or medicines that may be administered to farm animals, and exercise and social interaction requirements.

EFFECTIVE DATE: This act would become effective when it becomes law.

O. Walker Reagan
Director



Research Division
(919) 733-2578



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

H

D

HOUSE BILL 227
PROPOSED COMMITTEE SUBSTITUTE H227-PCS10351-TQ-11

Short Title: Broaden Sales Tax Exemption for Farmers.

(Public)

Sponsors:

Referred to:

March 16, 2015

A BILL TO BE ENTITLED
AN ACT TO LOWER THE INCOME REQUIREMENT FOR QUALIFYING FARMERS
FOR PURPOSES OF THE SALES TAX EXEMPTION FOR FARMERS.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 105-164.13E(a) reads as rewritten:

"§ 105-164.13E. Exemption for farmers.

(a) Exemption. – A qualifying farmer is a person who has an annual gross income for the preceding taxable year of ~~ten-five~~ five thousand dollars (~~\$10,000~~)(\$5,000) or more from farming operations or who has an average annual gross income for the three preceding taxable years of ~~ten-five~~ five thousand dollars (~~\$10,000~~)(\$5,000) or more from farming operations. A qualifying farmer includes a dairy operator, a poultry farmer, an egg producer, a livestock farmer, a farmer of crops, and a farmer of an aquatic species, as defined in G.S. 106-758. A qualifying farmer may apply to the Secretary for an exemption certificate number under G.S. 105-164.28A. The exemption certificate expires when a person fails to meet the income threshold for three consecutive taxable years or ceases to engage in farming operations.

The following tangible personal property, digital property, and services are exempt from sales and use tax if purchased by a qualifying farmer and for use by the farmer in farming operations. For purposes of this section, an item is used by a farmer for farming operations if it is used for the planting, cultivating, harvesting, or curing of farm crops or in the production of dairy products, eggs, or animals:

- (1) Fuel and electricity that is measured by a separate meter or another separate device and used for a purpose other than preparing food, heating dwellings, and other household purposes.

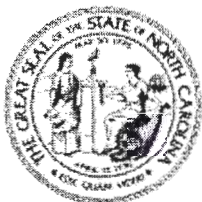
...."

SECTION 2. This act becomes effective July 1, 2015, and applies to exemption certificates issued on or after that date.



* H 2 2 7 - P C S 1 0 3 5 1 - T Q - 1 1 *





HOUSE BILL 227: Broaden Sales Tax Exemption for Farmers

2015-2016 General Assembly

Committee:	House Agriculture, if favorable, Finance	Date:	April 21, 2015
Introduced by:	Reps. Holloway, Whitmire, Riddell, Zachary	Prepared by:	Chris Saunders
Analysis of:	First Edition		Committee Counsel

SUMMARY: House Bill 227 would lower, from \$10,000 to \$5,000, the amount of income from farming required for a farmer to qualify for the sales tax exemption for farmers.

CURRENT LAW: A "qualifying farmer" is a person who has an annual gross income for the preceding income tax year of \$10,000 or more from farming operations, or who has an average annual gross income for the three preceding income tax years of \$10,000 or more from farming operations. Several enumerated types of tangible personal property, digital property, and services are exempt from sales and use tax when purchased by a qualifying farmer for use in farming operations. An item is used for farming operations if it is used for the planting, cultivating, harvesting, or curing of farm crops or in the production of dairy products, eggs, or animals.

BILL ANALYSIS: House Bill 227 would lower the income requirement from \$10,000 to \$5,000 in order for a farmer to qualify for the sales tax exemption.

EFFECTIVE DATE: This act would become effective July 1, 2015, and would apply to sales made on or after that date.

BACKGROUND: The sales tax exemption for qualified farmers was first enacted by S.L. 2013-316.

O. Walker Reagan
Director



* H 2 2 7 - S M T Q - 2 3 E 1 - V 1 *

Research Division
(919) 733-2578





NORTH CAROLINA GENERAL ASSEMBLY
AMENDMENT
House Bill 227

H227-ATQ-10 [v.1]

AMENDMENT NO. 1
(to be filled in by
Principal Clerk)

Page 1 of 1

Amends Title [NO]
First Edition

Date 4-21, 2015

Representative

Riddell

1 moves to amend the bill on page 1, lines 26 and 27, by rewriting those lines to read:

2
3 "SECTION 2. This act becomes effective July 1, 2015, and applies to exemption
4 certificates issued on or after that date."

SIGNED _____

Amendment Sponsor

SIGNED _____

Committee Chair if Senate Committee Amendment

ADOPTED ✓

FAILED _____

TABLED _____



* H 2 2 7 - A T Q - 1 0 - V - 1 *



Committee Sergeants at Arms

NAME OF COMMITTEE House Committee On Agriculture

DATE: April 21, 2015

Room: 643

House Sgt-At Arms:

1. Name: Carlton Adams
2. Name: Joe Austin
3. Name: David Leighton
4. Name: Martha Gadison
5. Name: _____

Senate Sgt-At Arms:

1. Name: _____
2. Name: _____
3. Name: _____
4. Name: _____
5. Name: _____



Tuesday, April 21
AGRICULTURE

Room
643

Time
1:00 pm

Name	County	Sponsor
Jessica Vazquez	Guilford	John Faircloth
Desmond Woods	Wake	Rosa U. Gill



VISITOR REGISTRATION SHEET

4-21-15

House Committee On Agriculture

April 21, 2015

6/9/15

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Jerry Schill	NCFA
Preston Hunsaw	NCMA
Doug Lassiter	NCSTA
Soj Adams	NCDAICS
Penny Hunsaw	School for
KOB Lawrence	KLA
Carr McLamb	TSS
Will Morgan	TMC
Pat Harris	NCDAICS
Dick Fowler	NCASWCO
Lauri Pagn	NC STATE GRANGE



VISITOR REGISTRATION SHEET

House Committee On Agriculture

April 21, 2015

4-21-15

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Susanna Das	NCEA
NO Wauville	Wauville Assoc.
Paul Sherman	NCEA
Stephen Kohn	CCS
Jackson Turner	CCS
Daniel McLeod	Ag. Alliance
Al	ACWR C
Margaret Board	ILC
Angie Mauer	NCP C



VISITOR REGISTRATION SHEET

4-21-15

House Committee On Agriculture

~~April 21, 2015~~

6/2/15

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

High Johnson	N/C ACC
Paul Hagman	Infarm Inc.
Joe McChes	McChes Consol
Reggie Holley	LONGMIRE GROUP
Brad Kutt	DENR
Matthew Dackhan	NC DENR
Lain Daniel	NC DENR
Cathy Wick	NCEN
BRUCE THOMPSON	PARKOZ POB
DAN RANFORD	NCCU
CORNELIUS GRAVES	WINSTON-SALEM STATE UNIV.



4-21-15
~~4/9/15~~

~~April 21, 2015~~

Date _____

~~6/9/15~~

FIRM OR AGENCY AND ADDRESS

MWELL

NCLM

856NK



**House Committee on Agriculture
Tuesday, June 9, 2015 at 1:00 PM
Room 643 of the Legislative Office Building**

MINUTES

The House Committee on Agriculture met at 1:00 PM on June 9, 2015 in Room 643 of the Legislative Office Building. Representatives Ager, J. Bell, L. Bell, Bradford, Brisson, Brockman, Brody, Cleveland, Collins, Daughtry, Dixon, Earle, C. Graham, Holley, Hunter, Jones, Langdon, Lucas, S. Martin, McGrady, Pittman, Presnell, Queen, Reives, Riddell, Salmon, Steinburg, R. Turner, Waddell, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

The following bills were considered:

SB 513 North Carolina Farm Act of 2015. (Senators Brock, B. Jackson)
PCS S513-CSTQxf-24

Representative Jimmy Dixon, Chair, presided.

Rep. Dixon calls meeting to order at 1:02pm:

Rep. Dixon then acknowledges our Sgt at Arms and Paige's working committee see attachment 1&2.

Rep. Dixon then turns time over to Sen. Brock & Sen. Jackson to discuss SB513

Rep. Langdon moves to hear the PCS.

Sen. Jackson then goes over sections 1-7 see attachment #3

Sen. Brock then discusses sections 8-11 see attachment #3

Sen. Jackson talks about sections 12-22 see attachment #3

Sen. Brock concludes bill discussing sections 23-25 see attachment #3

After some general discussion among committee members and bill sponsors there are some committee members who have amendments to offer. They is also request for guest speakers to talk on deer farming issue.

Committee stands in recess at 1:47pm for session and will resume at conclusion of session.

Rep. Dixon calls committee back to order at 3:36pm

Dr. Robert Brown –NC Wildlife Federation speaks on deer farming as it pertains to the bill.They oppose transfer.

Mary M. Asbill – SELC they oppose deer farming and the transfer to the Dept. of Ag.

Brad Hoztz- President of Deer & Elk farming of NC- They support the transfer of the program to the Dept. Of Agri.

Rep. Ager moves to amend bill on page 2 lines 10-22 by rewriting those lines.

Rep. Ager discusses his amendment.

Rep. Dixon calls for vote on amendment; Rep. Ager's amendment fails

Rep. Brisson moves to amend the bill on page 10 line 1 through pg 13 line 9 by deleting those lines. See Attach # 5

Rep. Brisson explains the amendment which eliminates transfer of deer farming to Dept. of Ag.

Rep. Dixon calls for vote and Rep. Brisson amendment fails.



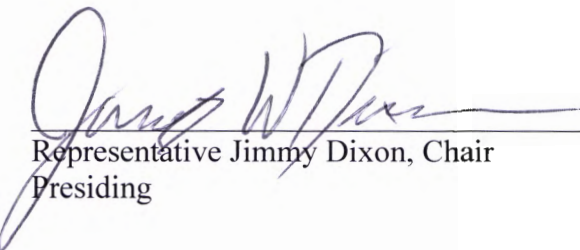
Rep. Collins moves to amend bill on pg. 1, line 24; pg 2, line 5 by deleting and pg. 2 lines 7-22 by deleting those lines and finally pg. 10 line 1 through pg. 13 line 9 by deleting those lines. See attach # 6

Rep. Dixon calls for vote on Collins amendment; Collins amendment fails; now back on bill
Further discussion or debate? None

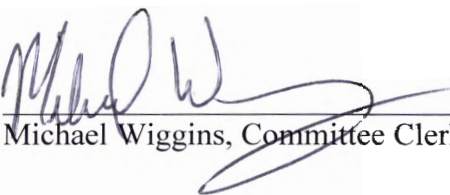
Rep. Dixon calls for vote on PCS to SB513

Rep. Dixon concludes Aye's have it and PCS S513-CSTQxf-24 to SB513 is approved with serial referral to Finance.

The meeting adjourned at 4:29pm.



Representative Jimmy Dixon, Chair
Presiding



Michael Wiggins, Committee Clerk



**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Tuesday, June 9, 2015

TIME: 1:00 PM

LOCATION: 643 LOB

The following bills will be considered:

BILL NO.	SHORT TITLE	SPONSOR
SB 513	North Carolina Farm Act of 2015.	Senator Brock Senator B. Jackson

Respectfully,

Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 11:37 AM on Tuesday, August 18, 2015.

____ Principal Clerk
____ Reading Clerk – House Chamber

Michael Wiggins (Committee Assistant)



**House Committee on Agriculture
Tuesday, June 9, 2015, 1:00 PM
643 Legislative Office Building**

AGENDA

Welcome and Opening Remarks

Introduction of Pages

Bills

BILL NO.	SHORT TITLE	SPONSOR
-----------------	--------------------	----------------

SB 513	North Carolina Farm Act of 2015.	
--------	----------------------------------	--

		Senator Brock
--	--	---------------

		Senator B. Jackson
--	--	--------------------

Adjournment



ATTENDANCE

HOUSE COMMITTEE ON AGRICULTURE

(Name of Committee)

[illegible]



ATTENDANCE

HOUSE COMMITTEE ON AGRICULTURE

(Name of Committee)

[illegible]



**NORTH CAROLINA GENERAL ASSEMBLY
HOUSE OF REPRESENTATIVES**

AGRICULTURE COMMITTEE REPORT
Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

**FAVORABLE HOUSE COM SUB, UNFAVORABLE SENATE COM SUB NO. 2 AND RE-
REFERRED**

SB 513 (CS#2)

North Carolina Farm Act of 2015.

Draft Number: S513-PCS25269-TQxf-24

Serial Referral: **FINANCE**

Recommended Referral: None

Long Title Amended: No

Floor Manager: Dixon

TOTAL REPORTED: 1



* C M R 4 2 9 - V - 1 *



Date: 6-9-15

Bill Number SB 513

PCS ✓ 5513-CST Qxf-24

Motion to be before the committee by Rep. Langdon

Sen. Brent Jackson explained the bill.
Rep. Brock

Discussion on the Bill (YES) or NO

Rep. _____ motioned for:

_____ Favorable Report

_____ Adoption

_____ Unfavorable Report

✓ Unfavorable to original bill, fav to PCS

_____ No vote

Amendments: : None Filed

Serial referral to: FINANCE

Speakers: DZ. ~~Robert~~ Robert Brown - NC Wildlife
Mary Asbill - SELC

Handouts: The Bill (PCS) & Bill Summary
Rep. Ager's Amendment.

Rep. Ager - Amendment

Rep. Collins - Amendment

Rep. Brisson - Amendment





SENATE BILL 513: North Carolina Farm Act of 2015

2015-2016 General Assembly

Committee: House Agriculture
Introduced by: Sens. Brock, B. Jackson
Analysis of: PCS to Fourth Edition
S513-CSTQxf-24 [v.14]

Date: June 9, 2015
Prepared by: Chris Saunders
Committee Counsel

SUMMARY: *The Proposed Committee Substitute (PCS) for Senate Bill 513 would make various changes to agricultural, transportation, and environmental laws.*

The PCS makes the following changes from the Fourth Edition of the bill:

- *In Section 13, deletes two unnecessary conforming changes.*
- *In Section 15, sets forth specific criteria under which burning of agricultural plastics is allowed.*
- *In Section 17, provides that the Division of Marine Fisheries and the Marine Fisheries Commission must issue no permits for the harvest and aquaculture of glass eels until the pilot American Eel Aquaculture Plan required by that section is approved by the Atlantic States Marine Fisheries Commission.*
- *In Section 23, allows wineries that produce at least 10,000 gallons of wine per year from honey, grapes, or other fruit or grain grown in North Carolina to be eligible for a farm winery permit.*
- *In Section 25, adds an additional technical correction overlooked in the transfer of the Forest Service from the Department of Environment and Natural Resources to DACS.*

CURRENT LAW AND BILL ANALYSIS:

Section 1 of the PCS would increase the North Carolina Horse Council assessment from \$2.00 to \$4.00 per ton of commercial horse feed, and provide that the assessment is levied for a period of ten years, up from three years. Under G.S. 106-825, the Council must use these funds to promote the interests of the horse industry.

Section 2 would provide that an employer does not have to withhold State income tax on compensation paid to an H-2A agricultural worker if the employer is not required to withhold federal income tax on that compensation. Since calendar year 2011, an employer must report compensation of \$600 or more paid to an H-2A agricultural worker on Form W-2, but the employer is not required to withhold federal taxes on the compensation unless the worker fails to provide the employer with either a Social Security Number (SSN) or an Individual Taxpayer Identification Number (ITIN). In the case of an H-2A agricultural worker who fails to provide a SSN or ITIN, the employer must withhold and remit 28% of the compensation and continue withholding this amount until the worker furnishes the employer the SSN or ITIN.

This section is effective for taxable years beginning on or after January 1, 2015.

O. Walker Reagan
Director



Research Division
(919) 733-2578

Senate Bill 513

Page 2

Section 3 would establish a policy supporting sustainable agriculture in the State. The term "sustainable agriculture" is defined in this section.

Section 4 would direct the Department of Transportation to amend its rules to allow permitted oversize vehicles to operate between sunset and sunrise, Monday through Sunday of each week. Current rules do not permit oversize vehicles to operate on Sundays. Additionally, this section would direct the Department to amend its rules to remove Labor Day, Memorial Day, and New Year's Day from the list of holidays during which an oversize vehicle may not operate from noon on the weekday preceding the holiday until noon of the weekday after the holiday.

Section 5 would provide that any vehicle carrying baled hay from place to place on the same farm, from one farm to another, from farm to market, or from market to farm, that does not exceed 12 feet in width may be operated on the highways of this State. Such vehicles exceeding 10 feet in width must operate only during daylight hours and must display a red flag or flashing warning light in the front and rear of the vehicle.

Section 6 would amend the right of center requirements to provide that farm equipment is not required to operate to the right of the center line when the combined width of the traveling lane and the accessible shoulder is less than the width of the equipment, and make a conforming change.

Section 7 would amend the definition of "agricultural spreader vehicle" to include vehicles designed for off-highway use on a farm to spread feed, and allow agricultural spreader vehicles that are exempt from the requirement of registration and certificate of title to travel at a speed of up to 45 miles per hour, up from 35 miles per hour.

Section 8 would allow any person to operate an all-terrain vehicle or utility vehicle on a public street or highway when engaged in farming operations.

Section 9 would clarify that the weight limitation exceptions for transportation of agricultural products and supplies apply to vehicles carrying dairy products; vehicles carrying water, fertilizer, pesticides, seeds, fuel, or animal waste to or from a farm; and vehicles carrying feed ingredients from a storage or holding facility to a mill or farm. This section would become effective July 1, 2015.

Section 10 would require meteorological towers between 50 and 200 feet¹ high to be marked and painted such that they are visible during daylight hours from of a distance of at least 2,000 feet. The towers must be painted in alternating bands of orange and white, have a marker ball attached to the top third of each guy wire, and have a seven-foot long safety sleeve at each anchor point. Any person constructing a meteorological tower must also register with the Department of Transportation, provide the location and height of the proposed tower, and pay a \$350 registration fee. The Department must develop and maintain a database of these towers by January 1, 2017, and make the database available on its Web site. The Secretary of Transportation would be permitted to assess a \$10,000 penalty against any person who violates either the marking or notice requirements. Towers existing on January 1, 2017, would be grandfathered.

This section would become effective January 1, 2017, and would apply to meteorological towers erected on or after that date.

Section 11 would direct the Secretary of Environment and Natural Resources not to exclude any area from shellfish cultivation leases solely on the basis that the area contains submerged aquatic vegetation. However, the policy of the Army Corps of Engineers, Wilmington District, prohibits shellfish leasing in

¹ Towers above 200 feet tall are regulated by the Federal Aviation Administration.

Senate Bill 513

Page 3

areas with submerged aquatic vegetation, and this section would not be enforceable until the Corps changes its policy.

This section would become effective July 1, 2015, and would apply to any new shellfish cultivation leases or renewals of existing shellfish cultivation leases issued on or after that date.

Section 12 would make three changes to present-use value taxation:

- This section would provide that, for purposes of present use value, the commercial production or growing of animals includes the rearing, feeding, training, caring, and managing of horses.
- This section would provide that when a tax assessor is determining whether a business entity applicant for present use value has farming as its principal business, there is a rebuttable presumption that farming is the business entity's primary business if the applicant has been approved for present value taxation for a qualifying property in another county. Any determination about the applicant's eligibility would not affect the determination of whether the individual parcel of land meets the classifications for agricultural, horticultural, or forest land pursuant to G.S. 105-277.3. Further, if the assessor is able to rebut the presumption, this would not invalidate a determination that the applicant's principal business is farming agricultural land, horticultural land, or forestland in the other county.
- This section would direct the Department of Revenue to publish a present-use value program guide annually and make the guide available on its Web site. Tax assessors would be required to adhere to the Department's guide when making decisions regarding the qualifications or appraisal of property for the present-use value taxation program.

This section would become effective July 1, 2015, and applies to taxes imposed for taxable years beginning on or after that date. The requirement to publish a present-use value guide would be effective when it becomes law.

Section 13 would provide that for any conservation agreement subject to Council of State approval for termination or substantial modification, the Council must deny any request for termination or substantial modification that is made for the purpose of economic development. This section would apply only to perpetual conservation agreements or term conservation agreements terminated or substantially modified before the end of the term, to which the State or a subdivision of the State is a party. However, this section would not apply to condemnation actions initiated by a public condemnor.

This section would clarify that parties to a conservation agreement may include a provision in the agreement requiring the consent of the grantor or the grantor's successors in interest to terminate or substantially modify the agreement for any purpose.

Any agency that manages a conservation agreement program would be permitted to adopt rules governing its procedure for termination or substantial modification of a conservation agreement, provided that the rules must be at least as stringent as the requirements of this section.

Section 14 would transfer the captive cervid program (deer farming) from the jurisdiction of the Wildlife Resources Commission (WRC) to the Department of Agriculture and Consumer Services (DACS). DACS would be responsible for regulating the production, sale, possession, and transportation, including importation and exportation, of farmed cervids. This would include any cervid species that is held in captivity and produced, bought, or sold for commercial purposes, including white-tailed deer, elk, fallow deer, and red deer.

DACS would be authorized to issue new captivity licenses and permits for farmed cervid facilities that will hold cervids that are not susceptible to Chronic Wasting Disease. Until the USDA has adopted an

Senate Bill 513

Page 4

approved method of testing for Chronic Wasting Disease (CWD) in living cervids, CWD-susceptible deer would not be allowed to be imported into this State. At such time as a live CWD test is developed, DACS would be authorized to issue new captivity licenses or permits for farmed cervid facilities that will hold cervids susceptible to CWD only if the CWD-susceptible source animals are from a certified herd in accordance with USDA Standards from an existing licensed facility. However, DACS would not be authorized to issue an importation permit for any farmed cervid from a CWD-positive, -exposed, or -suspect farmed cervid facility.

All free-ranging cervids would be required to be removed from any new captive cervid facility before stocking the facility with farmed cervids. Further, hunt facilities would be prohibited, and only the licensee, the owner or an employee of the facility, or a qualified veterinarian administering euthanasia would be permitted to kill a farmed cervid on the premises of a licensed facility.

Local governments would be prohibited from adopting any ordinances inconsistent with or more restrictive than the provisions of this section. Farmed cervids would not be subject to the provisions of G.S. 113-129, setting forth definitions related to wildlife resources.

Live farmed cervids would only be able to be transported on a public road if the cervid has an official form of identification and the appropriate transportation, importation, or exportation permit issued by DACS. Any live farmed cervid transported on a public road would be subject to inspection by a wildlife law enforcement officer to ensure that the farmed cervid has the required official identification and permits.

Violation of any requirement of this section would be punishable by a civil penalty of not more than \$5,000 per animal, issued by DACS. In determining the amount of the penalty, the Commissioner of Agriculture would consider the degree and extent of harm caused by the violation.

WRC would retain jurisdiction over the possession and transportation, including importation and exportation, of non-farmed cervids, including game carcasses and parts of game carcasses extracted by hunters and carcasses and parts of carcasses imported from hunt facilities as defined by USDA Standards.

Section 15 would allow burning of polyethylene agricultural plastic without an air quality permit, provided that the burning:

- Does not violate State or federal ambient air quality standards
- Is conducted between an hour after sunrise and an hour before sunset
- Is set back at least 250 feet from a paved public roadway and at least 500 feet from an occupied structure outside the property where the burning is conducted
- Is conducted in a manner such that it does not constitute a public nuisance.
- Is conducted by any of the following means:
 - By professionally manufactured equipment solely for the purpose of plastic mulch burning or incineration and approved by the Commissioner.
 - By a fire that is enclosed in a noncombustible container
 - By a fire that is restricted to a pile no greater than eight feet in diameter on cleared ground.
- The Department of Agriculture and Consumer Services would be permitted to adopt rules to implement the provisions of this section.

Senate Bill 513

Page 5

Section 16 would alter the implementation of animal waste management system regulations to provide that:

- A "new animal waste management system" does not include a system that has been abandoned or unused for a period of four years or more and is then put back into service.
- Certain swine waste management system performance standards will not apply to any facility that meets all the following conditions:
 - Has had no animals on site for five continuous years or more.
 - Notifies the Division of Water Resources in writing at least 60 days prior to bringing any animals back onto the site.
 - The system depopulated after January 1, 2005, and the system ceased operation no longer than 10 years prior to the current date.
 - At the time the system ceased operation, it was in compliance with an individual permit or a general permit.
 - The Division of Water Resources issues an individual permit or a certificate of coverage under a general permit for operation of the system before any animals are brought on the facility.
 - The permit for the animal waste management system does not allow production to exceed the greatest steady state live weight previously permitted for the system.
 - No component of the animal waste management system and swine farm, other than an existing swine house or land application site, may be constructed in the 100-year floodplain.
 - The inactive animal waste management system was not closed using the expenditure of public funds and was not closed pursuant to a settlement agreement, court order, cost-share agreement, or grant condition.

Section 17 would direct the Division of Marine Fisheries (Division) of the Department of Environment and Natural Resources and the Wildlife Resources Commission to jointly develop a pilot American Eel Aquaculture Plan for the harvest and aquaculture of American eels. The pilot project would be limited to a maximum annual harvest of 200 pounds of the glass eel stage of the American eel for use in domestic aquaculture facilities. The plan would also require that the eels be harvested only in watersheds that minimally contribute to the spawning stock of the American eel. The pilot plan would require the approval of the Atlantic States Marine Fisheries Commission. The Division and the Wildlife Resources Commission would be required to make every effort to have the plan approved for implementation by 2016, and persons interested in participating in the pilot program must submit all required information by no later than September 1, 2015. The Division and the North Carolina Marine Fisheries Commission would not be permitted to issue permits for the harvest and aquaculture of the glass eel stage of American eels until the pilot plan is approved by the Atlantic States Marine Fisheries Commission.

Section 18 would amend the definition of mining to provide that mining does not include excavation or grading when conducted solely for activities undertaken on agricultural land that are exempt from the requirements of the Sedimentation Pollution Control Act.

Section 19 would reduce the holding and advertising period for unclaimed livestock to allow the sale of unclaimed livestock within 13 days, rather than 50 days under current law. This section would also replace archaic language in the notification procedure. This section would be effective when it becomes law and would apply to livestock impounded on or after that date.

Senate Bill 513

Page 6

Section 20 would repeal DACS's reporting requirement for the North Carolina Dairy Stabilization and Growth Program and change the reporting date for revenues and expenditures of the Spay/Neuter Account from February to March of each year.

Section 21 would allow the Forest Service to accept a prescribed burner certification from another State or other entity. Prescribed burning is defined as "the planned and controlled application of fire to naturally occurring vegetative fuels under safe weather and safe environmental and other conditions, while following appropriate precautionary measures that will confine the fire to a predetermined area and accomplish the intended management objectives."

Section 22 would reduce the penalty for failure to guard a fire by watchman from a Class 3 misdemeanor to an infraction. Article 22 of Chapter 14 of the General Statutes contains several similar violations with more severe penalties:

- G.S. 14-136, Setting fire to grass and brushlands and woodlands, punishable as a Class 2 misdemeanor or a Class I felony.
- G.S. 14-137, Willfully or negligently setting fire to woods and fields, punishable as a Class 2 misdemeanor.
- G.S. 14-138.1, Setting fire to grassland, brushland, or woodland, punishable as a Class 3 misdemeanor.

Section 23 would establish a farm winery permit and farm winery unfortified wine permit. Any winery that produces at least 75% of its wine from honey, grapes, or other fruit or grain grown within the State would be able to obtain a farm winery permit, which would cost \$150, versus \$300 for an unfortified winery permit. A winery that produces at least 10,000 gallons of wine per year from honey, grapes, or other fruit or grown within the State would also be eligible for a farm winery permit. The holder of a farm winery permit could obtain a farm winery on-premises unfortified wine permit, which would be substantially equivalent to the existing on-premises unfortified wine permit, but would cost \$100 rather than \$400 for a standard on-premises unfortified wine permit.

The holder of a farm winery permit would have all the privileges of an unfortified winery permittee, plus the ability to give visitors free tasting samples of the wine manufactured at the farm winery without obtaining a limited winery permit, and to affix a label to the bottle certifying that the wine originates from a permitted farm winery.

This section would also make conforming changes and direct DACS to study ways to promote farm wineries within the State, including the development of a "passport" program where customers visiting a given number of farm wineries may receive a form of special recognition, such as a special sticker for their car. The report would be due to the Agriculture and Forestry Awareness Study Commission no later than February 1, 2016.

This section would become effective July 1, 2016, and would apply to permits issued on or after that date.

Section 24 would make a conforming change to clarify that all USDA-generated information received by DACS that is confidential under federal law must be held confidential. This section would also provide that all information collected by DACS from farm owners or animal owners, including laboratory reports received or generated from samples submitted for analysis, that may be used to identify an individual or business subject to regulation by DACS may not be disclosed without the permission of the owner, unless necessary to prevent the spread of animal disease or implement animal health programs.

Senate Bill 513

Page 7

Section 25 would make technical corrections overlooked in the transfer of the Forest Service from the Department of Environment and Natural Resources to DACS.

EFFECTIVE DATE: Except as otherwise provided, this act would be effective when it becomes law.





Attach
#4

NORTH CAROLINA GENERAL ASSEMBLY
AMENDMENT
Senate Bill 513

AMENDMENT NO. _____
(to be filled in by
Principal Clerk)

S513-ARI-20 [v.2]

Page 1 of 2

Amends Title [NO]
Fourth Edition

Date June 9, 2015

Representative Ager

1 moves to amend the bill on page 2, lines 10 through 22,
2 by rewriting those lines to read:

3
4 **""§ 106-26.3. Declaration of policy supporting sustainable agriculture.**

5 The General Assembly hereby finds and declares that it shall be the policy of this State to
6 support and promote sustainable agriculture. For purposes of this section, "sustainable
7 agriculture" means the use of science-based agricultural practices, and biological systems
8 supported by research or otherwise demonstrated to lead to broad outcomes-based
9 improvements, including such critical outcomes as increasing agricultural productivity and
10 improving human health through access to safe, nutritious, affordable food and other
11 agricultural products, sustaining the economic viability of family farms, and enhancing the
12 quality of life for farmers, farmworkers, and society as a whole, while enhancing agricultural
13 and surrounding environmental conditions through the stewardship of water, soil, air quality,
14 biodiversity, and wildlife habitat. Further, the General Assembly finds and declares that it is in
15 the interest of the people of this State to use sustainable agriculture to meet the needs of the
16 present and to improve the ability of future generations to meet their own needs, while
17 advancing progress toward environmental, social, and economic goals and the well-being of
18 agricultural producers and rural communities. Specifically, the General Assembly encourages
19 the support and promotion of sustainable agriculture by:

- 20 1. Encouraging the North Carolina Agricultural Finance Authority to take the
21 steps necessary to lend equitably to farmers engaged in sustainable
22 agriculture, and to businesses working to develop the infrastructure to cool,
23 store, process, and sell locally grown or raised food.
24 2. Encouraging North Carolina's land grant institutions, North Carolina State
25 University, and North Carolina State Agricultural and Technical University,
26 to equally fund public plant breeding research to meet the needs of all our
27 farmers.
28 3. Encouraging the North Carolina Agricultural Development and Farmland
29 Preservation Trust Fund to preserve farmland engaged in sustainable
30 agriculture and for the development of local food infrastructure.""
31



* S 5 1 3 - A R I - 2 0 - V - 2 *

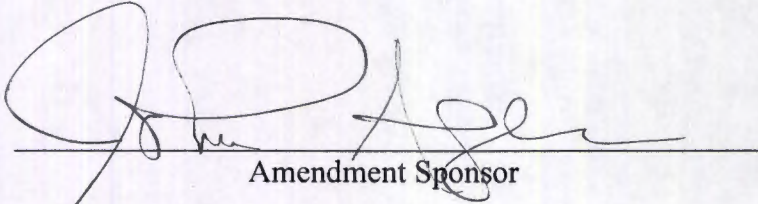
NORTH CAROLINA GENERAL ASSEMBLY
AMENDMENT
Senate Bill 513

AMENDMENT NO. _____
(to be filled in by
Principal Clerk)

S513-ARI-20 [v.2]

Page 2 of 2

SIGNED


Amendment Sponsor

SIGNED

Committee Chair if Senate Committee Amendment

ADOPTED

FAILED

TABLED





5

NORTH CAROLINA GENERAL ASSEMBLY
AMENDMENT
Senate Bill 513

AMENDMENT NO. _____
(to be filled in by
Principal Clerk)

S513-ARI-21 [v.1]

Page 1 of 1

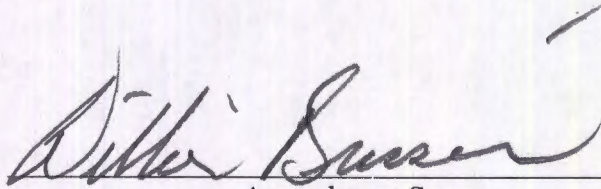
Amends Title [NO]
Fourth Edition

Date June 9, 2015

Rep. Brisson _____

1 moves to amend the bill on page 10, line 1, through page 13, line 9, by deleting those lines.
2
3

SIGNED



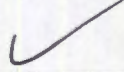
Amendment Sponsor

SIGNED _____

Committee Chair if Senate Committee Amendment

ADOPTED _____

FAILED _____



TABLED _____



* S 5 1 3 - A R I - 2 1 - V - 1 *

NORTH CAROLINA GENERAL ASSEMBLY AMENDMENT

(Please type or use ballpoint pen)

#6

EDITION No. _____

H. B. No. _____

DATE 6/9/15

S. B. No. S513

Amendment No. _____

COMMITTEE SUBSTITUTE S513-CS1Qxf-24 [v. 14]

(to be filled in by
Principal Clerk)

Rep.) Collins
Sen.) _____

1 moves to amend the bill on page 1, line 24

2 () WHICH CHANGES THE TITLE

3 ~~by~~ through p. 2, line 5, by deleting those lines;

4
5 and on page 2, lines 7 through 22,
6 by deleting those lines;

7
8 and on page 10, line 1, through page
9 13, line 9, by deleting those lines.

10
11
12
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15
16
17
18
19

SIGNED

[Signature]

ADOPTED _____ FAILED _____ TABLED _____

PRINCIPAL CLERK'S OFFICE (FOR ENGROSSMENT)



Committee Sergeants at Arms

NAME OF COMMITTEE House Comm. on Agriculture

DATE: 06/09/15 Room: 643

House Sgt-At Arms:

1. Name: Young Bae
2. Name: Bill Morris
3. Name: Jim Moran
4. Name: _____
5. Name: _____

Senate Sgt-At Arms:

1. Name: _____
2. Name: _____
3. Name: _____
4. Name: _____
5. Name: _____



2

Tuesday, June 9
AGRICULTURE

Room
643

Time
1:00 pm

Name	County	Sponsor
Chris Boulton	Mecklenburg	Jacqueline Michelle Schaffer
Sabrina Brewer	Mecklenburg	N. Leo Daughtry
Jake Browne	Forsyth	Debra Conrad
Jalen Cole	Wake	Yvonne Lewis Holley
Spencer Mangum	Wake	George Robinson
Levi McCracken	Haywood	Michele D. Presnell



VISITOR REGISTRATION SHEET

House Comm. on Agriculture

06/09/15

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Bred Hoxif	NC Deer & Elk Association
Tommy Hall	NC DEER & ELK Farmers Association
Larry Rides	NC Deer & Elk Farmers Assoc.
Natalie Hobson	NCHFA
Skyl David	KLG
Alex Miller	KLG
Will Pany-Hill	NCHFA
Betsy McCoirle	NCSEA
AJ Wolf	NCSEA
Peggy	mwc
TICENS	CSS



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NAME

FIRM OR AGENCY AND ADDRESS

Robert Poles	NCON
Ms. Mark Ashier	SELC
Peter Rube	American Rivers
Matthew Dockhorn	NC DENR
Brad Knott	NC DENR
Tom Reeder	NC DENR
Molly Duggin	NC Sierra Club
Julie Robinson	NCSEA
Cassie Gavin	Sierra Club
Michelle Frazier	MF+S
Peter Magner	NCLCV
Robert Hamilton	NC ABC Commission



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FIRM OR AGENCY AND ADDRESS

Sam Watson	Ncnc
Dan Conrad	NCUC
Taylor	Intern
Cara Townsend	Gov. office
GORDON MYERS	NCWRC
AC	WRC
MALORY MARTIN	WRC
DREW ELLIOT	JONES + BLOUNT
Mark Lattier	UNCW
Dicki (Miam. by)	Sierra Club
Francesca Marsh	NC Conservation Network



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House Comm. on Agriculture 06/09/15

Name of Committee

Date

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NAME	FIRM OR AGENCY AND ADDRESS
Sgt. Mary's	Governor's Office
Courtney Johnson	NP
TJ Bybee	NP
Brandon Krzykowski	Rep. Brady intern
Frank Hery	NCMIDA
David McGowan	NC Petro
Henry Jones	Geach Prince, etc.
Paul Sherman	ALFB
JAKE PARKER	NCFB
Tommy Stevens	NCPC
Angie Miller	NCPC



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House Comm. on Agriculture

06/09/15

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Date

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NAME

FIRM OR AGENCY AND ADDRESS

SUE GRAY	NC Horse Council
SOHN Cooper	CCS
R.D. Meckes	NC DA & CS
Joy Hicks	NCDA & CS
Wyndle Ring	NCDA and CJ
Clayton Dellinger	NCDA & CS
Lauri Anonio	2CLC
Amanda Fipron	CDA
OK Hooty	CAA
Meghan Cooke	OITS
Bamhart	MWC
Penny Guffe	School of Gov.



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FIRM OR AGENCY AND ADDRESS

Laurie Payne	STATE HOUSE
Jennifer Haigwood	Department of Labor
Sean McCabe	DOL
Sarah Beth Koonce	DOL
Amy Walsh	SA
Carv McLamb	TSS
Will Morgan	TNC
Elizabeth Bisc	BP
Chris McClure	BP
Rochelle Sparks	CFSA
Shanna Davis	NCFA



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House Comm. on Agriculture

06/09/15

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Date

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NAME

FIRM OR AGENCY AND ADDRESS

DICK HAMILTON	NCWF
Bob Brown	NCWR
Regan M Brown	citizen
Suba	zoostastic Park
Kimberly Brown	Zoostastic Park
Jonathan Hill	CTNC
Brooks Rainey Pearson	SELC



House Comm. on Agriculture 06/09/15

Date _____

NAME _____

FIRM OR AGENCY AND ADDRESS

[illegible]



VISITOR REGISTRATION SHEET

House Comm. on Agriculture

06/09/15

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Date

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NAME

FIRM OR AGENCY AND ADDRESS

Dy. J. D'Amico

Gov's Office

Daniel Chace

Sierra Club

Dick Carlton

Law Off. of K&B

Jerry Schill

NCFIA



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House Comm. on Agriculture 06/09/15

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Date

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NAME

FIRM OR AGENCY AND ADDRESS

J. GRAYEN SHERILL	NCFE
Doug Lassiter	NC STA
Jay Stem	NCAA
Susan Vice	Duke Energy
Freel Steen	Governor's Office
Michael S. Hare	CCS
Padraig Gibbons	Capital City
Alex Bowen	CCS
Peter Daniel	CCS



**House Committee on Agriculture
Tuesday, June 7, 2016 at 9:00
Room 643 of the Legislative Office Building**

MINUTES

The House Committee on Agriculture met at 9:05 on June 7, 2016 in Room 643 of the Legislative Office Building. Representatives Ager, L. Bell, Bradford, Brody, Cleveland, Collins, Daughtry, Dixon, Earle, Graham, Graham, Holley, Hunter, Jones, Langdon, Lucas, Presnell, Queen, Reives, Riddell, Salmon, Turner, Waddell, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

Representative Dixon, Co-chair presided.

The visitor log is Attachment 1 of these minutes and the Sergeant-at-Arms presiding is Attachment 2.

Rep. Dixon gave brief opening remarks welcoming the members and staff and introducing the pages that were present at the meeting. He then recognized Representative Langdon for his years of service and dedication to the House of Representative Agriculture Committee and presented him with a memento and a token of the committee's gratitude, a gavel. The members and guests applauded, recognizing Rep. Langdon.

Rep. Langdon then gave brief remarks in gratitude and emphasizing the importance of Agriculture to the state of North Carolina and what an honor he has had serving as the Chair of the Agriculture committee.

Rep. Dixon then moved on to recognize Rep. Brody. Rep. Brody moved to bring the PCS which is Attachment 3 in these minutes before the committee. The motion was seconded and the motion was voted on. The Ayes had it and the PCS was brought before the committee.

Rep. Dixon then recognized Rep. Brody to introduce House Bill 992. Rep. Brody passed out a fact sheet about Industrial Hemp, which is attachment 4 of these minutes.

Rep. Dixon then recognized staff to explain the bill section by section pausing for questions from the committee members after each section was explained. Questions from the public would be held for the end of the discussion. Chris Saunders from Legislative Analysis was recognized and began explaining the first section of the bill. The first section adds two definitions, defining research program and land-grant universities. Rep. Dixon asked if there were questions on the 1st section of the bill, there were none.

Saunders continued and went over the second section of the bill which expands membership of the Industrial Hemp Commission from 5 to 9 members. He explained the existing member positions and the difference in the added positions. Rep. Dixon then asked if there were questions pertaining to section two of the bill including the creation of the commission or the



people that were on it. Rep. Dixon commented that he would make his best effort to work with the Commissioner of Agriculture the whole way through the process to ensure that he is satisfied.

Rep. Dixon recognized Rep. Brody for comment; Rep. Brody commented that the new members of the commission would include law enforcement because of the importance of this issue to that community. Rep. Ager was recognized by Rep. Dixon for a question. Rep. Ager asked what was the rationale for expanding the number of members on the commission. Rep. Brody was recognized to answer his question. He suggested that Industrial Hemp growth and research was a specialized business, and with more expertise and greater coordination from an increased amount on the commission a better system could be developed. Rep. Dixon added that the importance of ensuring the agricultural viability is emphasized by the commission members will help the process.

Saunders was then recognized to go over section three of the bill. Section three of the bill makes a program directly establishing land grant universities and licensed growers the ability to grow Industrial Hemp for strictly research purposes. This section allows the department to collect fees and gives the commission rule making authority. Rep. Dixon asked the committee for questions and recognized Rep. Ager for a question. Rep. Ager asked if Industrial Hemp can be processed in plants within North Carolina. The question was directed to Saunders and he answered that yes if the seller has an agreement with a university for research purposes the bill states that that hemp can be commercially sold. Rep. Willingham was then recognized for a question. Rep. Willingham asked what fees are included in the provision of section three of the bill. Saunders answered the question that it states that fees would support the commission's running activities. Rep. Willingham then followed up asking why someone would be paying to grow the product. Rep. Brody was recognized to answer and suggested that the research was viable to see which strains and kinds of industrial hemp plant is most beneficial in the state and highlighted that the product can be sold. He referred to the Industrial Hemp fact sheet showing that Hemp is grown outside of the United States and is shipped into the states.

Rep. Dixon commented that section four accounts for the marketing and sale of Industrial Hemp and recognized Saunders to continue with the explanation of section four of the bill. Saunders stated that section four outlines the responsibilities of the licensees and added a new section on what deems an authorization of research purposes. He went over the outlined scenarios of different research fields.

Rep. Dixon then recognized Rep. Ager for question. Rep. Ager asked if the licenses would be given for the next growing season. Rep. Dixon answered that the commission must support and then issue licenses to those applicants that qualify once the commission is formed and rules are adopted. Rep. Presnell was recognized for a question and asked if there is a way for law enforcement to test to see the difference between Hemp and Marijuana. Rep. Dixon answered that yes there is a way for that to be done and law enforcement will be trained to do so.

Saunders continued to explain section five of the bill. Section five of the bill includes the provisions for civil and criminal penalties. Rep. Dixon commented that he believed the provisions were exhaustive and well-intended. He suggested that he was serious about the agricultural intent of the bill and the importance of making sure the bill was secure up front.



Rep. Queen was recognized for a question and asked about the history of other states with similar programs. Rep. Brody was recognized to answer the question by stating that Kentucky is the leading state in the Industrial Hemp research program and other states including North Dakota and Colorado also have programs and have had no problems with the state's provisions. Rep. Brody continued in adding a comment about how the plant is grown explaining that due to the difference of the type of planting law enforcement would be able to tell the difference between Industrial Hemp and Marijuana. Rep. Yarborough was recognized for a question. Rep. Yarborough inquired if NC would be one of the top five states in growing rope. Rep. Brody answered that we would not use Hemp for rope as it used to be used but that there are many other uses that the fiber can be used in and it may offer an alternative for other forest products.

Rep. Graham was recognized for a question. He inquired on his concern for the misuse of Industrial Hemp and asked how we can release items from religious aspects to show there is a difference between Marijuana and Industrial Hemp. He also inquired as to what a class two misdemeanor was, the criminal penalty included in the bill. Saunders was recognized to address Rep. Graham's question that a class two misdemeanor with no prior conviction called for a sentence of 1 to 3 days community punishment and increased if prior convictions are held on record. And added that the fine was up to \$1,000. Rep. Graham was recognized for a follow up and asked if there is a way that it could be considered to add a member of the clergy to the commission to help with PR of the issue. Rep. Dixon answered that the next meeting of the Committee on Agriculture would hear amendments to the bill. Rep. Brody commented that the amount of acreage would not be large and it would not affect a large portion of the population.

Rep. Turner was recognized for a question. Asking about the visual appearance of Hemp versus Marijuana. Rep. Brody answered that it is grown different one being more a bush and the other a stalk plant. Rep. Turner followed up asking if a class two misdemeanor was standard. Saunders answered that the new penalties were in line with other provisions in the department.

Rep. L. Bell was recognized for a question and asked if the commission would require special appropriations for research. Rep. Dixon answered no. Rep. Bell followed up asking if there would be new staff in the universities needed. Rep. Dixon answered, no.

Rep. Reives was then recognized for question. Rep. Reives inquired on the authority of the department to issue civil penalties to remove members of the program if problems arise. Saunders was allowed to answer and suggested that the commission would decide how to do this because it was not outlined in the bill. Rep. Turner asked if she could redirect her question Rep. Reives on class two misdemeanors. Rep. Reives answered that the charge was not necessarily comparable change but was an additional charges to charges already in place.

Rep. Willingham was recognized for question asking if NC can currently bring in Hemp for use. Rep. Brody answered that yes it is imported to NC because we cannot produce but a plant exists that processes it within NC.

Rep. Graham was then recognized for a question and asked to inquire to Rep. Reives. He was recognized and asked Rep. Reives about the severity of crimes. Rep. Reives answered that misdemeanors were ranked by numbers and felonies by letters.



Rep. Ager was recognized for a question. He inquired on civil penalties and if it includes those who buy Hemp seed and plant outside the research program. Rep. Dixon answered that yes it would be illegal. Rep. Watford made a comment that on the fact sheet it is beneficial to keep away Marijuana from Hemp to avoid cross pollination. Saunders answered commented that the growths of Industrial Hemp outside of programs it would be considered marijuana growth and would be go through criminal prosecution.

Saunders went over section six, seven and eight of the bill and highlighted that the bill amended the effective date following adoption of temporary rules by commission in theory start of 2017 growing season.

Rep. Yarborough was recognized for a question and inquired on the federal regulations and asked what they are. Rep. Brody answered that research says that there are bills in Congress to legalize industrial Hemp for industry.

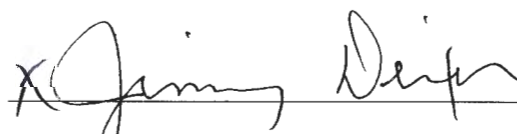
Rep. Salmon was recognized for a question regarding SB314 how much money was raised and who raised. Joy Hicks from the Department of Agriculture was recognized to be asked this question, she answered that there is a list at the department and the threshold has been meet.

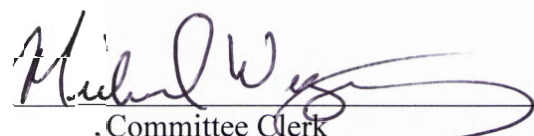
Rep. Graham was recognized for question and inquired who decided on class two misdemeanors. Rep. Brody was recognized to answer the question and suggested that it was discussed initially. Saunders then added that the provision was based on Virginia industrial hemp law and that the United States Department of Agriculture statues have other violations as class two misdemeanors.

Rep. Dixon asked the members of the public if there were any comments and there were none. Rep. Dixon then commented that in his opinion it may be important to add acreage limitation per licensor. This would be to address the right to grow more than someone else.

Rep. Brody commented that the Industrial Hemp program would be spread around the state to do the best research so that the benefits to the agriculture community can be heard. Rep. Dixon asked the other co-chairs if there are any comments and instructed that the committee would meet next week and comments from the public would be heard at the beginning of the meeting.

There being no further business, the meeting adjourned at 11:05.


Presiding


, Committee Clerk



**House Committee on Agriculture
Tuesday, June 7, 2016, 10:00 AM
643 Legislative Office Building**

AGENDA

Welcome and Opening Remarks

Introduction of Pages

Bills

BILL NO.	SHORT TITLE	SPONSOR
HB 992	Amend Industrial Hemp Definition. (For Discussion Only)	Representative Brody Representative Dixon Representative Langdon Representative Steinburg

Other Business

Adjournment



(Name of Committee)

[illegible]

(Name of Committee)

[illegible]

VISITOR REGISTRATIONS

Attachment 1

House Comm. on Agriculture

06/07/16

Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Amanda Smith	NCPC
Katherine Miller	NCPC
Rebecca E.	CFSA
Rochelle Sparko	CFSA
Joy Arches	NCDA&CS
Allison Pitts	NCDA&CS
Harmon Orendine	DHCS
Few Pascoe	Bio Regen Innovations
Bert James	Bio Regen Innovations Co-op



VISITOR REGISTRATION SHEET

House Comm. on Agriculture

06/07/16

Name of Committee

Date

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NAME

FIRM OR AGENCY AND ADDRESS

Paul Sherman	NCFB
JAKE PARKER	NCFB
JOHN COOPER	CCS
Peter Daniel	CCS
Jackson Stancil	CCS
Doug Laster	NCESTA
Scholar Ally	UNGC
Rev. MARK CREECH	CHL
Amanda Syron	JDA
Hugh Johnson	NCFB
John Cashion	Rep Salmon
Perry Holt	SOG



VISITOR REGISTRATION SHEET

House Comm. on Agriculture

Name of Committee

06/07/16

Date _____

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME _____

FIRM OR AGENCY AND ADDRESS

Carron Hart,

MVA

Jackson Stencil

155

Heather Englehart

Benchmarks

Catherine Harward

NCFB

Weld - Arch

Order form



VISITOR REGISTRATION SHEET

House Comm. on Agriculture

06/07/16

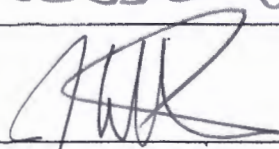
Name of Committee

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME

FIRM OR AGENCY AND ADDRESS

Jesse Way	NCLCV
	MWC
M. ARSENAULT	SIZAPA CLUB
Jon Lanier	NCDA + CS
Tina Hlabse	NCDA & CS
Blake Drewry	NCDA + CS
Vernon Gok	NCDA + CS
Joe Hodyncia	NCDA & CS
Eric Mathis	Bio-Region Innovations
Tyler Jenkins	Carolina Common Enterprise
Sue Ann Farresi	NCICU



Attachment 2

Committee Sergeants at Arms

NAME OF COMMITTEE House Comm. on Agriculture

DATE: 06/07/16 Room: 643

House Sgt-At Arms:

1. Name: Young Bae
2. Name: Jim Moran
3. Name: Martha Gadison
4. Name: Rex Foster
5. Name: _____

Senate Sgt-At Arms:

1. Name: _____
2. Name: _____
3. Name: _____
4. Name: _____
5. Name: _____



GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

H

D

HOUSE BILL 992
PROPOSED COMMITTEE SUBSTITUTE H992-CSTQ-43 [v.2]

06/03/2016 02:30:00 PM

Short Title: Amend Industrial Hemp Program.

(Public)

Sponsors:

Referred to:

April 28, 2016

A BILL TO BE ENTITLED

AN ACT TO MODIFY THE INDUSTRIAL HEMP RESEARCH PROGRAM BY CLARIFYING
THE DEFINITION OF RESEARCH PURPOSES AND THE RESPONSIBILITIES OF
LICENSEES, CREATING CIVIL AND CRIMINAL PENALTIES FOR VIOLATIONS OF
THE INDUSTRIAL HEMP PROGRAM, AND GRANTING RULEMAKING AUTHORITY
TO THE INDUSTRIAL HEMP COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 106-568.51 reads as rewritten:**"§ 106-568.51. (For expiration of Article, see note) Definitions.**

The following definitions apply in this Article:

- (1) Certified seed. – Industrial hemp seed that has been certified as having a delta-9 tetrahydrocannabinol concentration less than that adopted by federal law in the Controlled Substances Act, 21 U.S.C. § 801 et seq.
- (2) Commercial use. – The use of industrial hemp as a raw ingredient in the production of hemp products.
- (3) Commission. – The North Carolina Industrial Hemp Commission created by this Article.
- (4) Department. – The North Carolina Department of Agriculture.
- (5) Grower. – Any person licensed to grow industrial hemp by the Commission pursuant to this Article.
- (6) Hemp products. – All products made from industrial hemp, including, but not limited to, cloth, cordage, fiber, food, fuel, paint, paper, particleboard, plastics, seed, seed meal and seed oil for consumption, and certified seed for cultivation if the seeds originate from industrial hemp varieties.
- (7) Industrial hemp. – All parts and varieties of the plant *Cannabis sativa* (L.), cultivated or possessed by a grower licensed by the Commission, whether growing or not, that contain a delta-9 tetrahydrocannabinol concentration of not more than three-tenths of one percent (0.3%) on a dry weight basis.
- (7a) Industrial hemp research program. – The research program established pursuant to G.S. 106-568.53(1).
- (7b) State land grant university. – North Carolina State University and North Carolina A&T State University.
- (8) Tetrahydrocannabinol or THC. – The natural or synthetic equivalents of the substances contained in the plant, or in the resinous extractives of, cannabis, or any synthetic substances, compounds, salts, or derivatives of the plant or



* H 9 9 2 - C S T Q - 4 3 *

1 chemicals and their isomers with similar chemical structure and
2 pharmacological activity."

3 SECTION 2. G.S. 106-568.52 reads as rewritten:

4 "§ 106-568.52. (For expiration of Article, see note) North Carolina Industrial Hemp
5 Commission.

6 (a) Creation and Membership. – The North Carolina Industrial Hemp Commission is
7 established and shall consist of ~~five~~nine members as follows:

8 (1) The Commissioner of Agriculture or the Commissioner's designee, who shall
9 serve as vice-chair.

10 (2) One appointed by the General Assembly upon recommendation of the President
11 Pro Tempore of the Senate in accordance with G.S. 120-121, who shall at the
12 time of appointment be a municipal chief of police.

13 (3) One appointed by the General Assembly upon recommendation of the Speaker
14 of the House of Representatives in accordance with G.S. 120-121, who shall at
15 the time of appointment be an elected sheriff or the sheriff's designee.

16 (4) ~~One~~Two appointed by the Governor who shall at the time of appointment be a
17 full-time faculty member of a State land grant university who regularly ~~teaches~~
18 works in the field of agricultural science-science or research.

19 (5) ~~One~~Two appointed by the Commissioner of Agriculture, who shall be a
20 full-time farmer with at least 10 years of experience in agricultural production
21 in the State.

22 (6) One appointed by the Commissioner of Agriculture, who shall be a professional
23 agricultural consultant.

24 (7) One appointed by the Commissioner of Agriculture, who shall be an
25 agribusiness professional.

26 (b) Terms of Members. – Members of the Commission shall serve terms of four years,
27 beginning effective July 1 of the year of appointment, and may be reappointed to a second
28 four-year term. The terms of members designated by subdivisions (a)(1), (a)(2), ~~and (a)(4), and~~
29 (a)(6) of this section shall expire on June 30 of any year evenly divisible by four. The terms of the
30 remaining members shall expire on June 30 of any year that follows by two years a year evenly
31 divisible by four.

32 (c) Chair. – The members of the Commission shall elect a chair. The chair shall serve a
33 two-year term and may be reelected.

34 (d) Vacancies. – Any appointment to fill a vacancy on the Commission created by the
35 resignation, dismissal, death, or disability of a member shall be made by the original appointing
36 authority and shall be for the balance of the unexpired term.

37 (e) Removal. – The appointing authority shall have the power to remove any member of
38 the Commission appointed by that authority from office for misfeasance, malfeasance, or
39 nonfeasance.

40 (f) Reimbursement. – The members of the Commission shall receive per diem and
41 necessary travel and subsistence expenses in accordance with the provisions of G.S. 138-5.

42 (g) Quorum. – ~~Three~~Five members of the Commission shall constitute a quorum for the
43 transaction of business.

44 (h) Staff. – The Commission is authorized and empowered to employ no more than two
45 persons as staff to assist the Commission in the proper discharge of its duties and responsibilities.
46 The chair of the Commission shall organize and direct the work of the Commission staff. The
47 salaries and compensation of all such personnel shall be determined by the Commission; provided,
48 however, that the aggregate cost for salaries and benefits of the staff may not exceed two hundred
49 thousand dollars (\$200,000)."

50 SECTION 3. G.S. 106-568.53 reads as rewritten:

51 "§ 106-568.53. (For expiration of Article, see note) Powers and duties of the Commission.

The Commission shall have the following powers and duties:

- (1) To establish an ~~agricultural-industrial hemp research~~ program to grow or cultivate industrial hemp in the ~~State~~, to be ~~directly managed and coordinated by State land grant universities~~. The Commission shall pursue any permits or waivers from the United States Drug Enforcement Agency or any other federal agency that are necessary for the establishment of the industrial hemp ~~cultivation pilot research~~ program established by this Article. This research program shall consist primarily of demonstration plots planted and cultivated in North Carolina by selected growers. The growers shall be licensed pursuant to subsection (2) of this section prior to planting any industrial hemp.
- (2) To issue licenses allowing a person, firm, or corporation to cultivate industrial hemp for ~~commercial-research~~ purposes to the extent allowed by federal law, upon proper application as the Commission may ~~specify~~ specify, and in accordance with G.S. 106-568.53A. Each licensee shall provide a complete and accurate legal description of the location of the industrial hemp farming operation, including GPS coordinates, and the license shall be issued for cultivation only in those locations identified in the application and shall include on its face the description of those areas. The Department shall provide administrative support to the Commission for the processing of applications and issuance of licenses.
- (3) To support the Commission's activities, and to reimburse the Department for expenses associated with the issuance of cultivation licenses under subdivision (2) of this section, the Commission may charge the following fees:
 - a. An initial, graduated license fee, to be paid by each cultivator, based upon the number of acres proposed for cultivation of industrial hemp, not to exceed ten thousand dollars (\$10,000), with incentive provisions to encourage the participation of small acreage farmers.
 - b. An annual fee that is the sum of two hundred fifty dollars (\$250.00) and two dollars (\$2.00) per acre of industrial hemp cultivated.In setting fees under this subdivision, the Commission may create fair and reasonable licensing preferences for license applicants from North Carolina counties that have been recognized as economically depressed or disadvantaged. The Department shall collect and manage all fees charged by the Commission, and shall remit all funds collected under this subsection to the Commission at least monthly. The Department may retain its actual expenses associated with the issuance of cultivation licenses from the amount to be remitted to the Commission.
- (4) To receive gifts, grants, federal funds, and any other funds both public and private needed to support the Commission's duties and programs.
- (5) To establish procedures for reporting to the Commission by the growers and processors for agricultural or academic research and to collaborate and coordinate research efforts with the appropriate departments or programs of North Carolina State University and North Carolina A & T State University.
- ~~(6) To study and investigate marketplace opportunities for hemp products to increase the job base in the State by means of employment related to the production of industrial hemp.~~
- ~~(7) To study and investigate methods of industrial hemp cultivation that are best suited to soil conservation and restoration.~~
- (8) To ~~propose to the Board of Agriculture for adoption~~ adopt reasonable rules and regulations necessary to carry out the purposes of this Article, which shall include, but are not limited to, rules for all of the following:

- a. Testing of the industrial hemp during growth to determine tetrahydrocannabinol levels. Testing methods and protocols shall comply in all respects with any and all applicable federal requirements.
 - b. Supervision of the industrial hemp during its growth and harvest, including rules for verification of the type of seeds and plants used and grown by licensees.
 - c. The production and sale of industrial hemp, consistent with the rules of the United States Department of Justice and Drug Enforcement Administration for the production, distribution, and sale of industrial hemp.
 - d. Means and methods for assisting law enforcement agencies to efficiently ascertain information regarding the legitimate and lawful production of industrial hemp.
 - e. Strategies and programs for the promotion of industrial hemp products and markets, in conjunction with the North Carolina Department of Agriculture, the North Carolina Department of Commerce, the University of North Carolina system, and the community college system.
 - f. The fees authorized by subdivision (3) of this section.
- The Commission shall ~~include in its rulemaking proposals the adoption~~ adopt by reference or otherwise the federal regulations in effect regarding industrial hemp and any subsequent amendments to those regulations. No North Carolina rule, regulation, or statute shall be construed to authorize any person to violate any federal law or regulation.
- (9) To undertake any additional studies relating to the production, distribution, or use of industrial hemp as requested by the General Assembly, the Governor, or the Commissioner of Agriculture.
 - (10) To notify the State Bureau of Investigation and all local law enforcement agencies of the duration, size, and location of all industrial hemp demonstration plots authorized pursuant to the industrial hemp research program."

SECTION 4. Article 50E of Chapter 106 of the General Statutes is amended by adding two new sections to read:

"§ 106-568.53A. Responsibilities of licensees.

A person granted an industrial hemp license pursuant to this section shall:

- (a) Maintain records that demonstrate compliance with this Article and with all other State laws regulating the planting and cultivation of industrial hemp.
- (b) Retain all industrial hemp production records for a minimum of three years.
- (c) Allow industrial hemp crops, throughout sowing, growing, and harvesting, to be inspected by and at the discretion of the Commission, the State Bureau of Investigation, or the chief law enforcement officer of the unit or units of local government where the farm is located.
- (d) Maintain a current written agreement with a State land grant university that states that the grower is a participant in the industrial hemp research program managed by that institution."

...

"§ 106-568.55. Authorized research purposes.

As part of the industrial hemp research program directly managed by a State land grant university, a licensed grower may engage in any of the following research activities:

- (a) Studying and investigating marketplace opportunities for hemp products to increase the job base in the State by means of employment related to the production of industrial hemp.

- (b) Studying and investigating methods of industrial hemp cultivation that are best suited to soil conservation and restoration.
- (c) Overseeing and analyzing the growth of industrial hemp by licensed growers for agronomy research and analysis of required soils, growing conditions, and harvest methods relating to the production of various varieties of industrial hemp that may be suitable for various commercial hemp products.
- (d) Conducting seed research on various types of industrial hemp that are best suited to be grown in North Carolina, including seed availability, creation of North Carolina hybrid types, and in-the-ground variety trials and seed production. The Commission may establish a program to recognize certain industrial hemp seeds as being North Carolina varieties of hemp seed.
- (e) Studying the economic feasibility of developing an industrial hemp market in various types of industrial hemp that can be grown in the State, including by the commercial marketing and sale of industrial hemp.
- (f) Reporting on the estimated value-added benefits, including environmental benefits, to North Carolina businesses of an industrial hemp market of North Carolina-grown industrial hemp varieties.
- (g) Studying the agronomy research being conducted worldwide relating to industrial hemp varieties, production, and use.
- (h) Researching and promoting on the world market industrial hemp and hemp seed that can be grown in the State.
- (i) Promoting research into the development of industrial hemp and commercial markets for North Carolina industrial hemp and hemp products.
- (j) Studying the feasibility of attracting federal or private funding for the North Carolina industrial hemp research program.
- (k) Studying the use of industrial hemp in new energy technologies, including electricity generation, biofuels, or other forms of energy resources; the growth of industrial hemp on reclaimed mine sites; the use of hemp seed oil in the production of fuels; and the production costs, environmental issues, and costs and benefits involved with the use of industrial hemp for energy."

SECTION 5. Article 50E of Chapter 106 of the General Statutes is amended by adding two new sections to read:

"§ 106-568.56. Civil penalty.

(a) In addition to any other liability or penalty provided by law, the Commissioner may assess a civil penalty of not more than two thousand five hundred dollars (\$2,500) per violation against any person who:

- (1) Violates any provision of this Article or a rule adopted by the Commission, or conditions of any license, permit, or order issued by the Commission.
- (2) Manufactures, distributes, dispenses, delivers, purchases, aids, abets, attempts, or conspires to manufacture, distribute, dispense, deliver, purchase, or possesses with the intent to manufacture, distribute, dispense, deliver, or purchase marijuana on property used for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp. This penalty may be imposed in addition to any other penalties provided by law.
- (3) Provides the Commission with false or misleading information in relation to a license application or renewal, inspection, or investigation authorized by this Article.
- (4) Tampers with or adulterates an industrial hemp crop lawfully planted pursuant to this Article.

(b) The Commissioner shall remit the clear proceeds of civil penalties assessed pursuant to this section to the Civil Penalty and Forfeiture Fund in accordance with G.S. 115C-457.2."

"§ 106-568.57. Violation a misdemeanor.

(a) Any person that manufactures, distributes, dispenses, delivers, purchases, aids, abets, attempts, or conspires to manufacture, distribute, dispense, deliver, purchase, or possesses with the intent to manufacture, distribute, dispense, deliver, or purchase marijuana on property used for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp shall be deemed guilty of a Class 2 misdemeanor. This penalty may be imposed in addition to any other penalties provided by law.

(b) Any person that provides the Commission with false or misleading information in relation to a license application or renewal, inspection, or investigation authorized by this Article shall be deemed guilty of a Class 2 misdemeanor.

(c) Any person that tampers with or adulterates an industrial hemp crop lawfully planted pursuant to this Article shall be deemed guilty of a Class 2 misdemeanor."

SECTION 6. G.S. 90-87(16) reads as rewritten:

"(16) "Marijuana" means all parts of the plant of the genus Cannabis, whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds or resin, but shall not include the mature stalks of such plant, fiber produced from such stalks, oil, or cake made from the seeds of such plant, any other compound, manufacture, salt, derivative, mixture, or preparation of such mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of such plant which is incapable of germination. The term does not include industrial hemp as defined in G.S. 106-568.51, when the industrial hemp is produced and used in compliance with rules issued by ~~the Board of Agriculture upon the recommendation of the~~ North Carolina Industrial Hemp Commission."

SECTION 7. Section 3 of S.L. 2015-299 reads as rewritten:

"SECTION 3. ~~The Board of Agriculture~~North Carolina Industrial Hemp Commission may adopt temporary rules to implement the provisions of this act ~~and shall adopt permanent rules as recommended by the North Carolina Industrial Hemp Commission act.~~ The temporary rules shall remain in effect until permanent rules that replace the temporary rules become effective."

SECTION 8. Section 4 of S.L. 2015-299 reads as rewritten:

"SECTION 4. Section 2 of this act becomes effective on the first day of the month following the adoption of ~~permanent~~temporary rules pursuant to Section 3 of this act and applies to acts involving the production, possession, or use of industrial hemp occurring on or after that date. The remainder of this act is effective when it becomes law. This act shall expire on June 30 of the fiscal year in which the North Carolina Industrial Hemp Commission adopts and submits to the Governor and to the Revisor of Statutes a resolution that a State pilot program allowing farmers to lawfully grow industrial hemp is no longer necessary because (i) the United States Congress has enacted legislation that removes industrial hemp from the federal Controlled Substances Act and (ii) the legislation has taken effect."

SECTION 9. Section 5 of this act becomes effective December 1, 2016, and applies to offenses committed on or after that date. The remainder of this act is effective when it becomes law.



HOUSE BILL 992: Amend Industrial Hemp Program.

2016-2017 General Assembly

Committee:	House Agriculture	Date:	June 7, 2016
Introduced by:	Reps. Brody, Dixon, Langdon, Steinburg	Prepared by:	Chris Saunders
Analysis of:	PCS to First Edition		Committee Counsel
	H992-CSTQ-43 [v.2]		

SUMMARY: *The Proposed Committee Substitute (PCS) for H992 would (i) expand the membership of the Industrial Hemp Commission (Commission), (ii) clarify the powers and duties of the Commission, including granting rulemaking authority to the Commission, and provide that the industrial hemp research program must be managed and coordinated by State land grant universities, (iii) set out specific responsibilities of licensees and authorized research purposes for the industrial hemp program, (iv) create civil and criminal penalties for various violations of the industrial hemp program, and (v) amend the definition of marijuana to allow for the production of industrial hemp when the Commission adopts temporary rules to implement the program.*

[As introduced, this bill was identical to S771, as introduced by Sens. B. Jackson, Cook, Wade, which is currently in Senate Agriculture/Environment/Natural Resources.]

BACKGROUND: The Industrial Hemp Commission was established as a five-member commission by S313 (2015) to implement an industrial hemp program in North Carolina. Section 7606 of the federal Agricultural Act of 2014 (Pub. L. 113-79) allows states to implement an agricultural pilot program to study the growth, cultivation, or marketing of industrial hemp, provided that state law allows the growth or cultivation of industrial hemp and the pilot program is conducted by an institution of higher education or a state department of agriculture.

S313 required the Commission to obtain funding of at least \$200,000 from non-State sources to support its operations prior to meeting or undertaking any of its powers and duties. The Commission has obtained the required funding to begin its operations.

CURRENT LAW AND BILL ANALYSIS:

Section 1 of the PCS would create new definitions for "industrial hemp research program" and "State land grant university."

Section 2 would increase the number of members of the Commission from five members to nine members. The four additional members of the Commission would be:

- One appointed by the Governor, who is a full-time faculty member of a State land grant university who regularly works in the field of agricultural science or research.
- One appointed by the Commissioner of Agriculture (Commissioner), who is a full-time farmer with at least 10 years of experience in agricultural production in North Carolina.
- One appointed by the Commissioner, who is a professional agricultural consultant.

Karen Cochrane-Brown
Director



Legislative Analysis
Division
919-733-2578

House PCS 992

Page 2

- One appointed by the Commissioner, who is an agribusiness professional.

Section 3 would make the following changes to the powers and duties of the Commission:

- Clarify that the industrial hemp research program is to be directly managed and coordinated by State land grant universities, and that the program must consist primarily of demonstration plots planted and cultivated in the State by selected licensed growers.
- Specify that the Commission may only issue licenses for growth and cultivation of industrial hemp for research purposes.
- Authorize the Department of Agriculture to collect and manage fees charged by the Commission, provided that the Department remits all funds to the Commission at least monthly. The Department may retain its actual expenses associated with the issuance of licenses from the amount to be remitted to the Commission.
- Authorize the Commission to adopt rules necessary to implement the program.
- Require the Commission to notify the State Bureau of Investigation (SBI) and all local law enforcement agencies of the duration, size, and location of all industrial hemp plots authorized under the program.

Section 4 would add two new sections to provide the responsibilities of licensees and to set out authorized research purposes under the industrial hemp program.

The responsibilities of licensees would be:

- To maintain records demonstrating compliance with the program.
- To retain all industrial hemp production records for at least three years.
- To allow all industrial hemp crops to be inspected by and at the discretion of the Commission, the SBI, and local law enforcement.
- To maintain a written agreement verifying that the grower is a participant in an industrial hemp research program managed by a State land grant university.

The authorized research purposes would include, among other things:

- Studying marketplace opportunities for hemp products.
- Studying methods of industrial hemp cultivation that are best suited to soil conservation and restoration.
- Overseeing the growth of industrial hemp for agronomy research and analysis of required soils, growing conditions, and harvest methods.
- Conducting seed research on various types of industrial hemp and creating North Carolina hybrid types.
- Studying the economic feasibility of developing an industrial hemp market for various types of industrial hemp that can be grown in the State, including by the commercial marketing and sale of industrial hemp.

Section 5 would authorize the Commissioner to assess a civil penalty of up to \$2,500 for any of the following:

House PCS 992

Page 3

- Violating any provision of the Industrial Hemp Article or a rule adopted by the Commission, or violating the terms of a license or order issued by the Commission.
- Manufacturing, distributing, or delivering marijuana on property authorized for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp, or attempting to do the same.
- Providing false or misleading information in relation to a license application, inspection, or investigation.
- Tampering with or adulterating a lawfully planted industrial hemp crop.

This section would also make the previous three acts a Class 2 misdemeanor.

Section 6 would make a conforming change to reflect the rulemaking authority of the Commission.

Section 7 would authorize the Commission to adopt temporary rules to implement the industrial hemp research program.

Section 8 would provide that the change to the definition of "marijuana" to exclude lawfully grown industrial hemp would become effective following the adoption of temporary rules by the Commission.

EFFECTIVE DATE: Section 5 of this act would become effective December 1, 2016, and would apply to offenses committed on or after that date. The remainder of this act would be effective when it becomes law.

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[Home](#) > [Marketing](#) > Industrial Hemp Facts

Office of Ag Marketing and Product Promotion

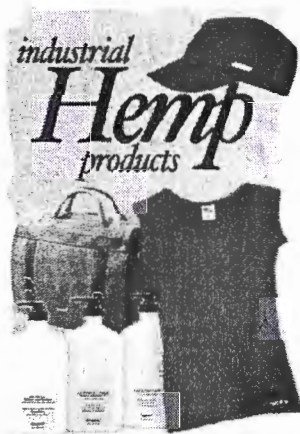
Attachment 4

Industrial Hemp Facts

[Agriculture Education / Outreach](#)[Agritourism](#)[Animal Marketing](#)[Business Development](#)[Grants](#)[Plant Marketing](#)[Show and Fair Promotion](#)[CSA](#)[Farmers' Market](#)[Forage Program](#)[GAP](#)[Ginseng](#)[Grape & Wine](#)[Horticulture](#)[Organic](#)[Hemp](#)[Industrial Hemp Facts](#)

Industrial hemp is a variety of *Cannabis sativa* and is of the same plant species as marijuana. However, hemp is genetically different and distinguished by its use and chemical makeup. Industrial hemp refers to cannabis varieties that are primarily grown as an agricultural crop. Hemp plants are low in THC (delta-9 tetrahydrocannabinol, marijuana's primary psychoactive chemical). THC levels for hemp generally are less than 1 percent. Federal legislation that would exclude hemp from the legal definition of marijuana would set a ceiling of 0.3 percent THC for a cannabis variety to be identified as hemp. Marijuana refers to the flowering tops and leaves of psychoactive cannabis varieties, which are grown for their high content of THC. THC levels for marijuana average about 10 percent but can go much higher.

Industrial hemp products, production, and markets

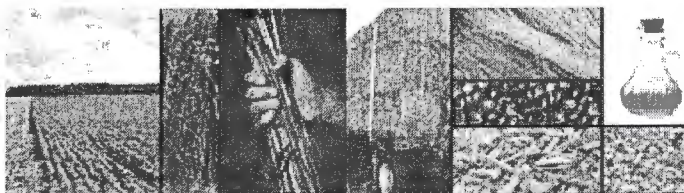


Some estimate that the global market for hemp consists of more than 25,000 products, including:

- fabrics and textiles
- yarns and raw or processed spun fibers
- paper
- carpeting
- home furnishings
- construction and insulation materials
- auto parts
- composites
- animal bedding
- foods and beverages
- body care products
- nutritional supplements
- industrial oils
- cosmetics
- personal care
- pharmaceuticals

An estimated 55,700 metric tons of industrial hemp are produced around the world each year. China, Russia, and South Korea are the leading hemp-producing nations. They account for 70 percent of the world's industrial hemp supply.

Canada had 38,828 licensed acres of industrial hemp in 2011. Canadian exports of hemp seed and hemp products were estimated at more than \$10 million, with most going to the U.S.



Photos

courtesy of www.Stemergy.com

content

Hemp Facts

HISTORY FACTS

*Hemp has been grown for at least the last 12,000 years for fiber (textiles and paper) and food. It has been effectively prohibited in the United States since the 1950s.

*George Washington and Thomas Jefferson both grew hemp. Ben Franklin owned a mill that made hemp paper. Jefferson drafted the Declaration of Independence on hemp paper.

*When US sources of "Manila hemp" (not true hemp) was cut off by the Japanese in WWII, the US Army and US Department of Agriculture promoted the "Hemp for Victory" campaign to grow hemp in the US.

*Because of its importance for sails (the word "canvass" is rooted in "cannabis") and rope for ships, hemp was a required crop in the American colonies.

INDUSTRY FACTS

*Henry Ford experimented with hemp to build car bodies. He wanted to build and fuel cars from farm products.

*BMW is experimenting with hemp materials in automobiles as part of an effort to make cars more recyclable.

*Much of the bird seed sold in the US has hemp seed (it's sterilized before importation), the hulls of which contain about 25% protein.

*Hemp oil once greased machines. Most paints, resins, shellacs, and varnishes used to be made out of linseed (from flax) and hemp oils.

*Rudolph Diesel designed his engine to run on hemp oil.

*Kimberly Clark (on the Fortune 500) has a mill in France which produces hemp paper preferred for bibles because it lasts a very long time and doesn't yellow.

*Construction products such as medium density fiber board, oriented strand board, and even beams, studs and posts could be made out of hemp. Because of hemp's long fibers, the products will be stronger and/or lighter than those made from wood.

*The products that can be made from hemp number over 25,000.

SCIENTIFIC FACTS

*Industrial hemp and marijuana are both classified by taxonomists as *Cannabis sativa*, a species with hundreds of varieties. *C. sativa* is a member of the mulberry family. Industrial hemp is bred to maximize fiber, seed and/or oil, while marijuana varieties seek to maximize THC (delta 9 tetrahydrocannabinol, the primary psychoactive ingredient in marijuana).

*While industrial hemp and marijuana may look somewhat alike to an untrained eye, an easily trained eye can easily distinguish the difference.

*Industrial hemp has a THC content of between 0.05 and 1%. Marijuana has a THC content of 3% to 20%. To receive a standard psychoactive dose would require a person to power-smoke 10-12 hemp cigarettes over an extremely short period of time. The large volume and high temperature of vapor, gas and smoke would be almost impossible for a person to withstand.

*If hemp does pollinate any nearby marijuana, genetically, the result will always be lower-THC marijuana, not higher-THC hemp. If hemp is grown outdoors, marijuana will not be grown close by to avoid producing lower-grade marijuana.

*Hemp fibers are longer, stronger, more absorbent and more mildew-resistant than cotton.

*Fabrics made of at least one-half hemp block the sun's UV rays more effectively than other fabrics.

*Many of the varieties of hemp that were grown in North America have been lost. Seed banks weren't maintained. New genetic breeding will be necessary using both foreign and domestic "ditchweed," strains of hemp that went feral after cultivation ended. Various state national guard units often spend their weekends trying to eradicate this hemp, in the mistaken belief they are helping stop drug use.

*A 1938 Popular Mechanics described hemp as a "New Billion Dollar Crop." That's back when a billion was real money.

*Hemp can be made in to a variety of fabrics, including linen quality.

LEGAL FACTS



*The US Drug Enforcement Agency classifies all *C. sativa* varieties as "marijuana." While it is theoretically possible to get permission from the government to grow hemp, DEA would require that the field be secured by fence, razor wire, dogs, guards, and lights, making it cost-prohibitive.

*The US State Department must certify each year that a foreign nation is cooperating in the war on drugs. The European Union subsidizes its farmers to grow industrial hemp. Those nations are not on this list, because the State Department can tell the difference between hemp and marijuana.

*Hemp was grown commercially (with increasing governmental interference) in the United States until the 1950s. It was doomed by the Marijuana Tax Act of 1937, which placed an extremely high tax on marijuana and made it effectively impossible to grow industrial hemp. While Congress expressly expected the continued production of industrial hemp, the Federal Bureau of Narcotics lumped industrial hemp with marijuana, as its successor the US Drug Enforcement Administration, does to this day.

*Over 30 industrialized democracies do distinguish hemp from marijuana. International treaties regarding marijuana make an exception for industrial hemp.

*Canada now again allows the growing of hemp.

ECOLOGY FACTS

*Hemp growers can not hide marijuana plants in their fields. Marijuana is grown widely spaced to maximize leaves. Hemp is grown in tightly-spaced rows to maximize stalk and is usually harvested before it goes to seed.

*Hemp can be made into fine quality paper. The long fibers in hemp allow such paper to be recycled several times more than wood-based paper.

*Because of its low lignin content, hemp can be pulped using less chemicals than with wood. Its natural brightness can obviate the need to use chlorine bleach, which means no extremely toxic dioxin being dumped into streams. A kinder and gentler chemistry using hydrogen peroxide rather than chlorine dioxide is possible with hemp fibers.

*Hemp grows well in a variety of climates and soil types. It is naturally resistant to most pests, precluding the need for pesticides. It grows tightly spaced, out-competing any weeds, so herbicides are not necessary. It also leaves a weed-free field for a following crop.

*Hemp can displace cotton which is usually grown with massive amounts of chemicals harmful to people and the environment. 50% of all the world's pesticides are sprayed on cotton.

*Hemp can displace wood fiber and save forests for watershed, wildlife habitat, recreation and oxygen production, carbon sequestration (reduces global warming), and other values.

*Hemp can yield 3-8 dry tons of fiber per acre. This is four times what an average forest can yield.

HEALTH FACTS

*If one tried to ingest enough industrial hemp to get 'a buzz', it would be the equivalent of taking 2-3 doses of a high-fiber laxative.

*At a volume level of 81%, hemp oil is the richest known source of polyunsaturated essential fatty acids (the "good" fats). It's quite high in some essential amino acids, including gamma linoleic acid (GLA), a very rare nutrient also found in mother's milk.

*While the original "gruel" was made of hemp seed meal, hemp oil and seed can be made into tasty and nutritional products.

Prepared by the North American Industrial Hemp Council, October 1997

[< Prev](#)

[Next >](#)

additional information

Newsflash

Industrial Hemp Brochure Published (PDF)

Make Copies for Your Own Use

This NAIHC brochure explains the many economic and environmental reasons for once again allowing U.S. farmers to grow industrial hemp.

Latest Q&A:

Warning: Creating default object from empty value
in `/home/thosting75/naihc.org/modules/mod_feed/helper.php` on line 46

- **Plans to Grow Hemp in Zambia & Turkey**

My company is looking to grow Industrial Hemp in Zambia as well as Turkey. We own farms now in both countries and we would like...

- **Ask Your Question**

Please review the "Categories" listed at the lower right before you send a new question. If you have a question or comment on an existing...

- **Hemp Paper Factory in South America**

I need a company which can establish a hemp paper factory. We have 10,000 people (with land) who can plant cañamo, and we can have...



**House Committee on Agriculture
Thursday, June 9, 2016 at 9:00
Room 423 of the Legislative Office Building**

MINUTES

The House Committee on Agriculture met at 9:05 on June 9, 2016 in Room 423 of the Legislative Office Building. Representatives Ager, J. Bell, Bradford, Brody, Cleveland, Collins, Dixon, Earle, Graham, Graham, Hunter, Jones, Langdon, Lucas, Martin, Pittman, Presnell, Reives, Riddell, Salmon, Steinburg, Turner, Waddell, Watford, West, Whitmire, Willingham, Yarborough, and Zachary attended.

Representative Dixon, Co-chair presided.

The visitor log is Attachment 1 of these minutes, the Sergeant-at-Arms presiding is Attachment 2 and the list of the Pages present is Attachment 3.

Rep. Dixon gave brief opening remarks welcoming the members and staff and introducing the House Pages and Sergeant at Arms that were present at the meeting. Rep. Dixon began by explaining to members that because of the timely manner that the bill needed to be moved the committee on Agriculture decided to meet earlier than previously discussed. He informed the committee that two speakers will be giving brief presentations on the Hemp bill in question one from the Department of Agriculture and the other from NC State University. Questions would be heard after the presentations and then the committee would vote on the bill at hand. House Bill 992 and the summary are attachments 4 and 5 of these minutes.

Rep. Dixon recognized Joy Hicks from the Department of Agriculture to speak for the department. She began by thanking the committee for allowing the prior legislation to be clarified to outline the purpose of the Industrial Hemp Program to be research. She stated that the department hopes for the process to be expeditious.

Rep. Dixon then recognized Dr. Ron Heiniger who works at NC State University. Dr. Heiniger began by stating that he was not representing the University but just speaking for himself. He suggested that the university is uniquely positioned to take part in the research Hemp program because they have plans that are similar in nature with other licensees programs so they have knowledge and experience in this area emphasizing their ability to foster responsibility and productivity.

Rep. Dixon then recognized Rep. West who moved the PCS to be before the committee, the PCS was put before the committee after a favorable vote.

Rep. Dixon recognized Rep. Pittman for a comment. Rep. Pittman said that he would make a motion at the appropriate time. Rep. Dixon then recognized Rep. Riddell for a question, Rep. Riddell asked about what movement was happening with the program on a federal level. Joy Hicks from the Department of Agriculture was recognized to address Rep. Riddell's question.



Hicks stated that there has been legislation moved forth but other states are in this program as well.

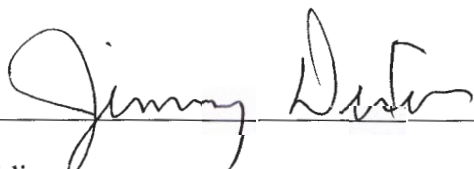
Rep. Brody was then recognized to address a question that was brought up in the last committee meeting, the hiding of marijuana plants in Hemp fields. Rep. Brody provided the members of the committee with a handout that is attachment 6 of these minutes. This handout provided information about the nature of cross pollination between the two species highlighting the fact that indeed it does not benefit but hurts the marijuana plant to pollinate with the Hemp plant, significantly reducing the levels of THC. The packet also addressed answers to products made from Hemp, the presence of NC research units at land-grant colleges, and the importance of becoming a leader in the processing of industrial hemp.

Rep. Dixon asked the committee if there were any other questions or comments. Rep. C. Graham was recognized for a question. Rep. Graham asked to address the Vice Chair, Rep. Brody. He asked how is the state going to monitor that marijuana is not grown. Rep. Brody responded by reintegrating the fact that marijuana and hemp do not want to cross pollinate and that the bill is only for research purposes and due to that will be controlled. He directed this portion of his response to Joy Hicks from the Department of Agriculture. Hicks responded by saying that on line 4 of the bill it states that the Department of Agriculture will regulate the process through the writing of the rules once the commission is formed.

Rep. Yarborough was recognized to make a comment, he stated that after he had done some research he had found that marijuana and industrial hemp are two completely different plants and that the THC levels in the female plant, marijuana, once introduced to a male plant, hemp, are significantly lower.

Rep. Dixon stated that because of other meetings taking place during the same time that the committee would not receive amendments but they would be received on the floor. Rep. Dixon recognized Rep. Pittman for a motion. Rep. Pittman moved to report unfavorable to the original, favorable to the PCS of HB 992. Rep. Dixon called for a vote. The Ayes had it and the motion passes.

There being no further business, the meeting adjourned at 9:20.



Presiding

, Committee Clerk



House Committee on Agriculture
Thursday, June 9th, 9am
423/424 LOB
AGENDA

Welcome and Opening Remarks

Introduction of Pages & Sgt at Arms

Bills:

BILL NO.	SHORT TITLE	SPONSOR
HB 992	Amend Industrial Hemp Definition	Representative Brody Representative Dixon Representative Langdon Representative Steinburg

Adjournment



**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Thursday, June 9, 2016
TIME: 9:00 AM
LOCATION: 423 LOB
COMMENTS: Room is 423/424 of LOB

The following bills will be considered:

BILL NO.	SHORT TITLE	SPONSOR
HB 992	Amend Industrial Hemp Definition.	Representative Brody Representative Dixon Representative Langdon Representative Steinburg

Respectfully,

Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 3:42 PM on Wednesday, June 08, 2016.

____ Principal Clerk
____ Reading Clerk – House Chamber

Michael Wiggins (Committee Assistant)



09 June 6

(Name of Committee)

[illegible]

(Name of Committee)

[illegible]

**NORTH CAROLINA GENERAL ASSEMBLY
HOUSE OF REPRESENTATIVES**

AGRICULTURE COMMITTEE REPORT

**Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair**

FAVORABLE COM SUB , UNFAVORABLE ORIGINAL BILL

HB 992

Amend Industrial Hemp Definition.

Draft Number:	H992-PCS40658-TQ-43
Serial Referral:	None
Recommended Referral:	None
Long Title Amended:	Yes
Floor Manager:	Brody

TOTAL REPORTED: 1



★ C M R 7 1 0 - V - 1 ★



VISITOR REGISTRATION SLIP

Attachment 1

HOUSE COMMITTEE ON AGRICULTURE
(Committee Name)6/9/16
DateVISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
JACKSON, JACOB	CCS
PETER DANIEL	CCS
JAKE PARKER	NCFB
Joy Miller	NCDA & CS
Jon Lanier	NCDA & CS
Caitlin Little	UNC SOG
Amanda Syron	JDA
Fen PASLOE	B.O. Regen Production
Rox Higgins	North Carolina State Univ.
Don Cotton	Gen. Mfg. & XLT
Se Ann Forrest	NCICU
Rebecca Eskalis	CFSA
Blake Drewry	NCDA & CS



VISITOR REGISTRATION SHEET

House Committee on Agriculture

(Committee Name)

6/9/16

Date

VISITORS: PLEASE SIGN IN BELOW AND RETURN TO COMMITTEE CLERK

NAME	FIRM OR AGENCY
Shironda Martin	NC DOJ
Doug Lassiter	NC STA
MAT ARSENAULT	NC SIERRA CLUB
Fernando Jimenez	New Frame
STARLET JOHNSON	NCAH
Steve Melcuff	NC Pest Control Association
Joe Finney	State Pest Control
Wes Warden	State Pest Control
Andrew Barrows	State Pest Control
Ronald E. E. E.	NCPC
Amanda Smith	NCPC
Zachary E. E. E.	CFSA
Joe Ryall	NCFPC
Colin Campbell	NHO
John	MW L





SENATE SERGEANT-AT-ARMS

COMMITTEE: HOUSE AGE

DATE: 6-9- ROOM: 423/R4

1. BARRY MOORE
2. YOUNG BAE
3. BILL RILEY
4. WILL CROCKER
5. JONAS CHERRY
6. DEAN MARSHBOURNE



Attachment 3

Please admit the following House Pages to the Agriculture committee meeting:

Lydia Chapman, Catawba County

Andrew Grierson, Cumberland County

Sarah Kim, Guilford County

John Renegar, Lincoln County

Jordan Trakas, Mecklenburg County

Gia Williams, Robeson County

Thank you,

Carol Waer

Substitute House Page Supervisor



GENERAL ASSEMBLY OF NORTH C.
SESSION 2015

Attachment 4

H

D

HOUSE BILL 992
PROPOSED COMMITTEE SUBSTITUTE H992-PCS40658-TQ-43

Short Title: Amend Industrial Hemp Program.

(Public)

Sponsors:

Referred to:

April 28, 2016

A BILL TO BE ENTITLED
AN ACT TO MODIFY THE INDUSTRIAL HEMP RESEARCH PROGRAM BY CLARIFYING
THE DEFINITION OF RESEARCH PURPOSES AND THE RESPONSIBILITIES OF
LICENSEES, CREATING CIVIL AND CRIMINAL PENALTIES FOR VIOLATIONS OF
THE INDUSTRIAL HEMP PROGRAM, AND GRANTING RULE-MAKING AUTHORITY
TO THE INDUSTRIAL HEMP COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 106-568.51 reads as rewritten:

"§ 106-568.51. Definitions.

The following definitions apply in this Article:

- (1) Certified seed. – Industrial hemp seed that has been certified as having a delta-9 tetrahydrocannabinol concentration less than that adopted by federal law in the Controlled Substances Act, 21 U.S.C. § 801 et seq.
- (2) Commercial use. – The use of industrial hemp as a raw ingredient in the production of hemp products.
- (3) Commission. – The North Carolina Industrial Hemp Commission created by this Article.
- (4) Department. – The North Carolina Department of Agriculture.
- (5) Grower. – Any person licensed to grow industrial hemp by the Commission pursuant to this Article.
- (6) Hemp products. – All products made from industrial hemp, including, but not limited to, cloth, cordage, fiber, food, fuel, paint, paper, particleboard, plastics, seed, seed meal and seed oil for consumption, and certified seed for cultivation if the seeds originate from industrial hemp varieties.
- (7) Industrial hemp. – All parts and varieties of the plant *Cannabis sativa* (L.), cultivated or possessed by a grower licensed by the Commission, whether growing or not, that contain a delta-9 tetrahydrocannabinol concentration of not more than three-tenths of one percent (0.3%) on a dry weight basis.
- (7a) Industrial hemp research program. – The research program established pursuant to G.S. 106-568.53(1).
- (7b) State land grant university. – North Carolina State University and North Carolina A&T State University.
- (8) Tetrahydrocannabinol or THC. – The natural or synthetic equivalents of the substances contained in the plant, or in the resinous extractives of, cannabis, or any synthetic substances, compounds, salts, or derivatives of the plant or



* H 9 9 2 - P C S 4 0 6 5 8 - T Q - 4 3 *

1 chemicals and their isomers with similar chemical structure and
2 pharmacological activity."

3 **SECTION 2.** G.S. 106-568.52 reads as rewritten:

4 **"§ 106-568.52. North Carolina Industrial Hemp Commission.**

5 (a) Creation and Membership. – The North Carolina Industrial Hemp Commission is
6 established and shall consist of five-nine members as follows:

- 7 (1) The Commissioner of Agriculture or the Commissioner's designee, who shall
8 serve as vice-chair.
9 (2) One appointed by the General Assembly upon recommendation of the President
10 Pro Tempore of the Senate in accordance with G.S. 120-121, who shall at the
11 time of appointment be a municipal chief of police.
12 (3) One appointed by the General Assembly upon recommendation of the Speaker
13 of the House of Representatives in accordance with G.S. 120-121, who shall at
14 the time of appointment be an elected sheriff or the sheriff's designee.
15 (4) ~~One-Two~~ appointed by the Governor who shall at the time of appointment be a
16 full-time faculty member of a State land grant university who regularly ~~teaches~~
17 works in the field of agricultural ~~science~~science or research.
18 (5) ~~One-Two~~ appointed by the Commissioner of Agriculture, who shall be a
19 full-time farmer with at least 10 years of experience in agricultural production
20 in the State.
21 (6) One appointed by the Commissioner of Agriculture, who shall be a professional
22 agricultural consultant.
23 (7) One appointed by the Commissioner of Agriculture, who shall be an
24 agribusiness professional.

25 (b) Terms of Members. – Members of the Commission shall serve terms of four years,
26 beginning effective July 1 of the year of appointment, and may be reappointed to a second
27 four-year term. The terms of members designated by subdivisions (a)(1), (a)(2), ~~and (a)(4)(a)(4),~~
28 and (a)(6) of this section shall expire on June 30 of any year evenly divisible by four. The terms of
29 the remaining members shall expire on June 30 of any year that follows by two years a year evenly
30 divisible by four.

31 (c) Chair. – The members of the Commission shall elect a chair. The chair shall serve a
32 two-year term and may be reelected.

33 (d) Vacancies. – Any appointment to fill a vacancy on the Commission created by the
34 resignation, dismissal, death, or disability of a member shall be made by the original appointing
35 authority and shall be for the balance of the unexpired term.

36 (e) Removal. – The appointing authority shall have the power to remove any member of
37 the Commission appointed by that authority from office for misfeasance, malfeasance, or
38 nonfeasance.

39 (f) Reimbursement. – The members of the Commission shall receive per diem and
40 necessary travel and subsistence expenses in accordance with the provisions of G.S. 138-5.

41 (g) Quorum. – ~~Three-Five~~ members of the Commission shall constitute a quorum for the
42 transaction of business.

43 (h) Staff. – The Commission is authorized and empowered to employ no more than two
44 persons as staff to assist the Commission in the proper discharge of its duties and responsibilities.
45 The chair of the Commission shall organize and direct the work of the Commission staff. The
46 salaries and compensation of all such personnel shall be determined by the Commission; provided,
47 however, that the aggregate cost for salaries and benefits of the staff may not exceed two hundred
48 thousand dollars (\$200,000)."

49 **SECTION 3.** G.S. 106-568.53 reads as rewritten:

50 **"§ 106-568.53. Powers and duties of the Commission.**

51 The Commission shall have the following powers and duties:

- (1) To establish an ~~agricultural~~ industrial hemp research program to grow or cultivate industrial hemp in the ~~State~~ State, to be directly managed and coordinated by State land grant universities. The Commission shall pursue any permits or waivers from the United States Drug Enforcement Agency or any other federal agency that are necessary for the establishment of the industrial hemp cultivation pilot research program established by this Article. This research program shall consist primarily of demonstration plots planted and cultivated in North Carolina by selected growers. The growers shall be licensed pursuant to subdivision (2) of this section prior to planting any industrial hemp.
- (2) To issue licenses allowing a person, firm, or corporation to cultivate industrial hemp for ~~commercial research~~ purposes to the extent allowed by federal law, upon proper application as the Commission may ~~specify~~ specify, and in accordance with G.S. 106-568.53A. Each licensee shall provide a complete and accurate legal description of the location of the industrial hemp farming operation, including GPS coordinates, and the license shall be issued for cultivation only in those locations identified in the application and shall include on its face the description of those areas. The Department shall provide administrative support to the Commission for the processing of applications and issuance of licenses.
- (3) To support the Commission's activities, and to reimburse the Department for expenses associated with the issuance of cultivation licenses under subdivision (2) of this section, the Commission may charge the following fees:
- An initial, graduated license fee, to be paid by each cultivator, based upon the number of acres proposed for cultivation of industrial hemp, not to exceed ten thousand dollars (\$10,000), with incentive provisions to encourage the participation of small acreage farmers.
 - An annual fee that is the sum of two hundred fifty dollars (\$250.00) and two dollars (\$2.00) per acre of industrial hemp cultivated.
- In setting fees under this subdivision, the Commission may create fair and reasonable licensing preferences for license applicants from North Carolina counties that have been recognized as economically depressed or disadvantaged. The Department shall collect and manage all fees charged by the Commission and shall remit all funds collected under this subdivision to the Commission at least monthly. The Department may retain its actual expenses associated with the issuance of cultivation licenses from the amount to be remitted to the Commission.
- (4) To receive gifts, grants, federal funds, and any other funds both public and private needed to support the Commission's duties and programs.
- (5) To establish procedures for reporting to the Commission by the growers and processors for agricultural or academic research and to collaborate and coordinate research efforts with the appropriate departments or programs of North Carolina State University and North Carolina A & T State University.
- (6) ~~To study and investigate marketplace opportunities for hemp products to increase the job base in the State by means of employment related to the production of industrial hemp.~~
- (7) ~~To study and investigate methods of industrial hemp cultivation that are best suited to soil conservation and restoration.~~
- (8) ~~To propose to the Board of Agriculture for adoption reasonable adopt rules and regulations necessary to carry out the purposes of this Article, which shall include, but are not limited to, rules for all of the following:~~

- a. Testing of the industrial hemp during growth to determine tetrahydrocannabinol levels. Testing methods and protocols shall comply in all respects with any and all applicable federal requirements.
- b. Supervision of the industrial hemp during its growth and harvest, including rules for verification of the type of seeds and plants used and grown by licensees.
- c. The production and sale of industrial hemp, consistent with the rules of the United States Department of Justice and Drug Enforcement Administration for the production, distribution, and sale of industrial hemp.
- d. Means and methods for assisting law enforcement agencies to efficiently ascertain information regarding the legitimate and lawful production of industrial hemp.
- e. Strategies and programs for the promotion of industrial hemp products and markets, in conjunction with the North Carolina Department of Agriculture, the North Carolina Department of Commerce, the University of North Carolina system, and the community college system.
- f. The fees authorized by subdivision (3) of this section.

The Commission shall ~~include in its rulemaking proposals the adoption~~ adopt by reference or otherwise the federal regulations in effect regarding industrial hemp and any subsequent amendments to those regulations. No North Carolina rule, regulation, or statute shall be construed to authorize any person to violate any federal law or regulation.

- (9) To undertake any additional studies relating to the production, distribution, or use of industrial hemp as requested by the General Assembly, the Governor, or the Commissioner of Agriculture.

- (10) To notify the State Bureau of Investigation and all local law enforcement agencies of the duration, size, and location of all industrial hemp demonstration plots authorized pursuant to the industrial hemp research program."

SECTION 4. Article 50E of Chapter 106 of the General Statutes is amended by adding two new sections to read:

"§ 106-568.53A. Responsibilities of licensees.

A person granted an industrial hemp license pursuant to this section shall:

- (1) Maintain records that demonstrate compliance with this Article and with all other State laws regulating the planting and cultivation of industrial hemp.
- (2) Retain all industrial hemp production records for a minimum of three years.
- (3) Allow industrial hemp crops, throughout sowing, growing, and harvesting, to be inspected by and at the discretion of the Commission, the State Bureau of Investigation, or the chief law enforcement officer of the unit or units of local government where the farm is located.
- (4) Maintain a current written agreement with a State land grant university that states that the grower is a participant in the industrial hemp research program managed by that institution.

"§ 106-568.55. Authorized research purposes.

As part of the industrial hemp research program directly managed by a State land grant university, a licensed grower may engage in any of the following research activities:

- (1) Studying and investigating marketplace opportunities for hemp products to increase the job base in the State by means of employment related to the production of industrial hemp.

- (2) Studying and investigating methods of industrial hemp cultivation that are best suited to soil conservation and restoration.
- (3) Overseeing and analyzing the growth of industrial hemp by licensed growers for agronomy research and analysis of required soils, growing conditions, and harvest methods relating to the production of various varieties of industrial hemp that may be suitable for various commercial hemp products.
- (4) Conducting seed research on various types of industrial hemp that are best suited to be grown in North Carolina, including seed availability, creation of North Carolina hybrid types, and in-the-ground variety trials and seed production. The Commission may establish a program to recognize certain industrial hemp seeds as being North Carolina varieties of hemp seed.
- (5) Studying the economic feasibility of developing an industrial hemp market in various types of industrial hemp that can be grown in the State, including by commercial marketing and sale of industrial hemp.
- (6) Reporting on the estimated value-added benefits, including environmental benefits, to North Carolina businesses of an industrial hemp market of North Carolina-grown industrial hemp varieties.
- (7) Studying the agronomy research being conducted worldwide relating to industrial hemp varieties, production, and use.
- (8) Researching and promoting on the world market industrial hemp and hemp seed that can be grown in the State.
- (9) Promoting research into the development of industrial hemp and commercial markets for North Carolina industrial hemp and hemp products.
- (10) Studying the feasibility of attracting federal or private funding for the North Carolina industrial hemp research program.
- (11) Studying the use of industrial hemp in new energy technologies, including electricity generation, biofuels, or other forms of energy resources; the growth of industrial hemp on reclaimed mine sites; the use of hemp seed oil in the production of fuels; and the production costs, environmental issues, and costs and benefits involved with the use of industrial hemp for energy."

SECTION 5. Article 50E of Chapter 106 of the General Statutes is amended by adding two new sections to read:

"§ 106-568.56. Civil penalty.

(a) In addition to any other liability or penalty provided by law, the Commissioner may assess a civil penalty of not more than two thousand five hundred dollars (\$2,500) per violation against any person who:

- (1) Violates any provision of this Article or a rule adopted by the Commission, or conditions of any license, permit, or order issued by the Commission.
- (2) Manufactures, distributes, dispenses, delivers, purchases, aids, abets, attempts, or conspires to manufacture, distribute, dispense, deliver, purchase, or possesses with the intent to manufacture, distribute, dispense, deliver, or purchase marijuana on property used for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp. This penalty may be imposed in addition to any other penalties provided by law.
- (3) Provides the Commission with false or misleading information in relation to a license application or renewal, inspection, or investigation authorized by this Article.
- (4) Tampers with or adulterates an industrial hemp crop lawfully planted pursuant to this Article.

(b) The Commissioner shall remit the clear proceeds of civil penalties assessed pursuant to this section to the Civil Penalty and Forfeiture Fund in accordance with G.S. 115C-457.2.

"§ 106-568.57. Violation a misdemeanor.

(a) Any person that manufactures, distributes, dispenses, delivers, purchases, aids, abets, attempts, or conspires to manufacture, distribute, dispense, deliver, purchase, or possesses with the intent to manufacture, distribute, dispense, deliver, or purchase marijuana on property used for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp, shall be deemed guilty of a Class 2 misdemeanor. This penalty may be imposed in addition to any other penalties provided by law.

(b) Any person that provides the Commission with false or misleading information in relation to a license application or renewal, inspection, or investigation authorized by this Article shall be deemed guilty of a Class 2 misdemeanor.

(c) Any person that tampers with or adulterates an industrial hemp crop lawfully planted pursuant to this Article shall be deemed guilty of a Class 2 misdemeanor."

SECTION 6. G.S. 90-87(16) reads as rewritten:

"(16) "Marijuana" means all parts of the plant of the genus Cannabis, whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds or resin, but shall not include the mature stalks of such plant, fiber produced from such stalks, oil, or cake made from the seeds of such plant, any other compound, manufacture, salt, derivative, mixture, or preparation of such mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of such plant which is incapable of germination. The term does not include industrial hemp as defined in G.S. 106-568.51, when the industrial hemp is produced and used in compliance with rules issued by the Board of Agriculture upon the recommendation of the North Carolina Industrial Hemp Commission."

SECTION 7. Section 3 of S.L. 2015-299 reads as rewritten:

"**SECTION 3.** The Board of Agriculture North Carolina Industrial Hemp Commission may adopt temporary rules to implement the provisions of this act and shall adopt permanent rules as recommended by the North Carolina Industrial Hemp Commission act. The temporary rules shall remain in effect until permanent rules that replace the temporary rules become effective."

SECTION 8. Section 4 of S.L. 2015-299 reads as rewritten:

"**SECTION 4.** Section 2 of this act becomes effective on the first day of the month following the adoption of permanent temporary rules pursuant to Section 3 of this act and applies to acts involving the production, possession, or use of industrial hemp occurring on or after that date. The remainder of this act is effective when it becomes law. This act shall expire on June 30 of the fiscal year in which the North Carolina Industrial Hemp Commission adopts and submits to the Governor and to the Revisor of Statutes a resolution that a State pilot program allowing farmers to lawfully grow industrial hemp is no longer necessary because (i) the United States Congress has enacted legislation that removes industrial hemp from the federal Controlled Substances Act and (ii) the legislation has taken effect."

SECTION 9. Section 5 of this act becomes effective December 1, 2016, and applies to offenses committed on or after that date. The remainder of this act is effective when it becomes law.



Attachment 5

HOUSE BILL 992: Amend Industrial Hemp Program.

2016-2017 General Assembly

Committee:	House Agriculture	Date:	June 7, 2016
Introduced by:	Reps. Brody, Dixon, Langdon, Steinburg	Prepared by:	Chris Saunders
Analysis of:	PCS to First Edition H992-CSTQ-43 [v.2]		Committee Counsel

SUMMARY: *The Proposed Committee Substitute (PCS) for H992 would (i) expand the membership of the Industrial Hemp Commission (Commission), (ii) clarify the powers and duties of the Commission, including granting rulemaking authority to the Commission, and provide that the industrial hemp research program must be managed and coordinated by State land grant universities, (iii) set out specific responsibilities of licensees and authorized research purposes for the industrial hemp program, (iv) create civil and criminal penalties for various violations of the industrial hemp program, and (v) amend the definition of marijuana to allow for the production of industrial hemp when the Commission adopts temporary rules to implement the program.*

[As introduced, this bill was identical to S771, as introduced by Sens. B. Jackson, Cook, Wade, which is currently in Senate Agriculture/Environment/Natural Resources.]

BACKGROUND: The Industrial Hemp Commission was established as a five-member commission by S313 (2015) to implement an industrial hemp program in North Carolina. Section 7606 of the federal Agricultural Act of 2014 (Pub. L. 113-79) allows states to implement an agricultural pilot program to study the growth, cultivation, or marketing of industrial hemp, provided that state law allows the growth or cultivation of industrial hemp and the pilot program is conducted by an institution of higher education or a state department of agriculture.

S313 required the Commission to obtain funding of at least \$200,000 from non-State sources to support its operations prior to meeting or undertaking any of its powers and duties. The Commission has obtained the required funding to begin its operations.

CURRENT LAW AND BILL ANALYSIS:

Section 1 of the PCS would create new definitions for "industrial hemp research program" and "State land grant university."

Section 2 would increase the number of members of the Commission from five members to nine members. The four additional members of the Commission would be:

- One appointed by the Governor, who is a full-time faculty member of a State land grant university who regularly works in the field of agricultural science or research.
- One appointed by the Commissioner of Agriculture (Commissioner), who is a full-time farmer with at least 10 years of experience in agricultural production in North Carolina.
- One appointed by the Commissioner, who is a professional agricultural consultant.

Karen Cochrane-Brown
Director



Legislative Analysis
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House PCS 992

Page 2

- One appointed by the Commissioner, who is an agribusiness professional.

Section 3 would make the following changes to the powers and duties of the Commission:

- Clarify that the industrial hemp research program is to be directly managed and coordinated by State land grant universities, and that the program must consist primarily of demonstration plots planted and cultivated in the State by selected licensed growers.
- Specify that the Commission may only issue licenses for growth and cultivation of industrial hemp for research purposes.
- Authorize the Department of Agriculture to collect and manage fees charged by the Commission, provided that the Department remits all funds to the Commission at least monthly. The Department may retain its actual expenses associated with the issuance of licenses from the amount to be remitted to the Commission.
- Authorize the Commission to adopt rules necessary to implement the program.
- Require the Commission to notify the State Bureau of Investigation (SBI) and all local law enforcement agencies of the duration, size, and location of all industrial hemp plots authorized under the program.

Section 4 would add two new sections to provide the responsibilities of licensees and to set out authorized research purposes under the industrial hemp program.

The responsibilities of licensees would be:

- To maintain records demonstrating compliance with the program.
- To retain all industrial hemp production records for at least three years.
- To allow all industrial hemp crops to be inspected by and at the discretion of the Commission, the SBI, and local law enforcement.
- To maintain a written agreement verifying that the grower is a participant in an industrial hemp research program managed by a State land grant university.

The authorized research purposes would include, among other things:

- Studying marketplace opportunities for hemp products.
- Studying methods of industrial hemp cultivation that are best suited to soil conservation and restoration.
- Overseeing the growth of industrial hemp for agronomy research and analysis of required soils, growing conditions, and harvest methods.
- Conducting seed research on various types of industrial hemp and creating North Carolina hybrid types.
- Studying the economic feasibility of developing an industrial hemp market for various types of industrial hemp that can be grown in the State, including by the commercial marketing and sale of industrial hemp.

Section 5 would authorize the Commissioner to assess a civil penalty of up to \$2,500 for any of the following:

House PCS 992

Page 3

- Violating any provision of the Industrial Hemp Article or a rule adopted by the Commission, or violating the terms of a license or order issued by the Commission.
- Manufacturing, distributing, or delivering marijuana on property authorized for industrial hemp production, or in a manner intended to disguise the marijuana due to its proximity to industrial hemp, or attempting to do the same.
- Providing false or misleading information in relation to a license application, inspection, or investigation.
- Tampering with or adulterating a lawfully planted industrial hemp crop.

This section would also make the previous three acts a Class 2 misdemeanor.

Section 6 would make a conforming change to reflect the rulemaking authority of the Commission.

Section 7 would authorize the Commission to adopt temporary rules to implement the industrial hemp research program.

Section 8 would provide that the change to the definition of "marijuana" to exclude lawfully grown industrial hemp would become effective following the adoption of temporary rules by the Commission.

EFFECTIVE DATE: Section 5 of this act would become effective December 1, 2016, and would apply to offenses committed on or after that date. The remainder of this act would be effective when it becomes law.



industries hemp

Industrial Hemp

Industrial Hemp

Industrial Hemp

Attachment 6

Industrial Hemp



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Farm Industrial Hemp

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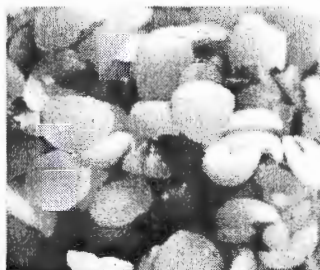


WHAT IS HEMP

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Hemp is a variety of cannabis that is grown for the fiber and seeds. The fiber and seeds are incredible valuable and is why hemp is often called a "cash crop". Hemp is a very hearty plant and grows very quickly in very diverse soil conditions. Cultivation of hemp for industrial purposes has been done by

many civilizations for over 12,000 years. Industrial hemp was the desired fiber used to manufacture rope, canvas, paper, and clothing until alternative textiles and synthetics for these purposes were discovered. Although China has been the largest hemp producer over the years, other countries such as Australia and Canada are catching up. It has been illegal for anyone to grow hemp in the United States as hemp is illegal under the marijuana prohibition act but Colorado has changed the laws and paved the way for industrial hemp production again in the United States(see hemp history). Now hemp oils, hemp plastics, hemp building materials and many hemp fiber products can be seen and purchased on the market. Hemp is truly an amazing plant with the potential to help "green up" many industries.

Traditionally, hemp fiber has been a very coarse fiber when raw, which made it well suited to rope but less than ideal for clothing designed to be worn against delicate human skin. Advances in breeding of the plants and treatment/processing of the fibers have resulted in a much finer, softer hemp fiber, which is ideal for weaving into hemp clothing, fabrics and rope.



Hemp leaves

Watch the video on Hemp for victory to learn more about the importance of hemp during war times.

The "re-growth of industrial hemp in the United States is heavily regulated, although the neighbouring nation of Canada successfully grows hemp commercially. Since becoming legal to grow again in Canada, the crop has taken off and has become a booming multi-million dollar export. Hemp building materials are another growing segment of the hemp industry. Canada is now a leader in the global hemp food/health marketplace. Canadian hemp products can be found in many hemp markets now in the United States and the world over.

In addition to providing useful fibers, hemp seed also has high nutritional value. and the plant can be used to make biodegradable plastics, some fuels, and a variety of other things. Hemp foods including but not limited to hemp energy bars, hemp salad dressing, hemp milk, hemp protein shakes, hemp oil gel caps and^



hemp protein powder are among some of the health products being produced today. Visit the Hemp Education pages to learn more!



HEMP FUEL

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Hemp fuels- Environmentally friendly fuel sources

The basics: Hemp can provide two types of fuel.

1. **Hemp biodiesel** – made from the oil of the (pressed) hemp seed.
2. **Hemp ethanol/methanol** – made from the fermented stalk.

To clarify further, ethanol is made from such things as grains, sugars, starches, waste paper and forest products, and methanol is made from woody/pulp matter. Using processes such as gasification, acid hydrolysis and enzymes, hemp can be used to make both ethanol and methanol.

In this day of oil wars, peak oil (and the accompanying soaring prices), climate change and oil spills such as the one in the gulf by BP, it's more important than ever to promote sustainable alternatives such as hemp ethanol. Hemp turns out to be the most cost-efficient and valuable of all the fuel crops we could grow on a scale that could fuel the world.

And as it turns out, the whole reason for hemp prohibition – and alcohol prohibition – may have been a fuel the realization that OIL production is threatened by any competing fuel source, especially one that requires no modifications to your car!

What is Hemp Biodiesel?

Hemp biodiesel is the name for a variety of ester based oxygenated fuels made from hemp oil. The concept of using vegetable oil as an engine fuel dates back to 1895 when Dr. Rudolf Diesel developed the first diesel engine to run on vegetable oil. Diesel demonstrated his engine at the World Exhibition in Paris in 1900 using peanut oil as fuel. Hemp biodiesel come from the pressing of the hemp seeds to extract the oil. Through a process explained here , hemp biodiesel can be made.

Hemp biodiesel can be made from domestically produced, renewable oilseed crops such as hemp. With over 30 million successful U.S. road miles hemp biodiesel could be the answer to our cry for renewable fuel sources. Learning more about renewable fuels does not mean we should not cut back on consumption but does help address the environmental affects of our choices. There is more to hemp as a renewable fuel source than you know

Why Hemp Biodiesel?



- Biodiesel is the only alternative fuel that runs in any conventional, unmodified diesel engine.
- It can be stored anywhere that petroleum diesel fuel is stored. Biodiesel is safe to handle and transport because it is as biodegradable as sugar, 10 times less toxic than table salt, and has a high flashpoint of about 300 F compared to petroleum diesel fuel, which has a flash point of 125 F.
- Biodiesel can be made from domestically produced, renewable oilseed crops such as hemp.
- Biodiesel is a proven fuel with over 30 million successful US road miles, and over 20 years of use in Europe.
- When burned in a diesel engine, biodiesel replaces the exhaust odor of petroleum diesel with the pleasant smell of hemp, popcorn or french fries.
- Biodiesel is the only alternative fuel in the US to complete EPA Tier I Health Effects Testing under section 211(b) of the Clean Air Act, which provide the most thorough inventory of environmental and human health effects attributes that current technology will allow.
- Biodiesel is 11% oxygen by weight and contains no sulfur.
- The use of biodiesel can extend the life of diesel engines because it is more lubricating than petroleum diesel fuel, while fuel consumption, auto ignition, power output, and engine torque are relatively unaffected by biodiesel.
- The Congressional Budget Office, Department of Defense, US Department of Agriculture, and others have determined that biodiesel is the low cost alternative fuel option for fleets to meet requirements of the Energy Policy Act.

[Click here to view one method of making biodiesel with hemp seed oil](#)



HEMP PROTEIN

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Hemp seeds have many nutritional benefits that our bodies can take advantage of in things like hemp milk and hemp protein powder. Hemp contains a high proportion of amino acids in ratios best suited for human assimilation. The hemp seeds protein content is approximately 23%. Hemp seeds also contains essential minerals including Calcium, Magnesium, Phosphorus, Potassium and Sulphur. It is, however, low in heavy metals such as strontium, thorium and arsenic chromium. Heavy metals should be avoided in a healthy diet. Hemp seeds are also high in dietary fibre. Hemp seeds provide Essential Fatty Acids (EFA's) Linoleic Acid (LA) and Linolenic Acid (LNA) as well as containing Gamma Linolenic acid (GLA). Of the fat in hemp seed, we have found 56% is Linoleic and 19% is Linolenic (a ratio of 3:1 is considered the optimum balance). Furthermore, oil from hemp seeds is far more valuable, in terms of concentrated nutrients, than soybean the nearest vegan alternative. EFA's are required by the human body in order to maintain hormonal balance, healthy skin, hair, general health and well being.

The body is, however, incapable of producing EFA's and it is therefore necessary to ensure that they are consumed by the body as a part of a balanced diet. essential fatty acids available in hemp seeds are accountable for the responsiveness of our immune system and they do not raise cholesterol levels. In fact EFA's help to clear the bodies arteries. Because hemp seeds are so digestible, scientists are suggesting their use in medicine to blocking diseases and in treating malnutrition. Tests are currently in progress with regards to EFA's in treating cancer and helping to support the immune system of those with the HIV virus. Advice gathered from Government scientists and from the health food industry generally suggests that our regular dietary habits require a reduction of fat intake. Humans MUST consume fat in order to obtain an adequate supply of the two essential fatty acids (LA and LNA). This is the reason that they are referred to as 'essential' and the rest are merely fatty acids or simply 'fats'. Over-consumption of saturated fat is harmful.



Research links essential fatty acid deficiency with cancer, cardiovascular disease, auto immune disorders, impaired wound healing, breast pain, pre-menstrual syndrome, hormonal imbalance, multiple sclerosis, skin and hair disorders. The type of fat in one's diet is therefore critically important. If then we increase intake of EFA's to 12-15% of our total daily food consumption then this alone quickens our metabolic rate. This results in a thermogenic reaction causing fat burn off and loss of excess weight. LA and LNA also



substantially shorten time required for fatigued muscles to recover after exercise and they facilitate the conversion of lactic acid to water and carbon dioxide.

HEMP OIL

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Hemp oil

The principal product made from hemp seeds today is undoubtedly the oil. Purified or refined hemp seed oil is clear and colorless. There is not much flavor to hemp oil and it lacks natural vitamins and antioxidants. Refined hemp seed oil is primarily used in body care products. Industrial hempseed oil is used in fuel, paints, plastics etc.. Hemp seed oil has is used in the production of some healthcare products. The hemp oil has a high nutritional value because its 3:1 ratio of omega-6 to omega-3 essential fatty acids, which matches the balance required by the human body. Learn more about the nutritional value of the hemp seed oil here.

How is hemp oil made?

Hemp oil is extracted from the hemp seeds by means of a press. The press consists of a slowly rotating worm-shaft that squeezes out the majority of the oil and separates off the remaining seed matter known as the seed cake. The whole process is done in an oxygen-free environment in order to reduce oxidation.

How can I use hemp oil?

Further to its superb properties for cleansing and moisturizing the skin, hemp oil is also a nutritionist's dream. Hemp oil is unique in its make up and rivals oils such as flax seed oil as a dietary supplement. It contains many of the Essential Fatty Acids (EFAs) that the body requires for healthy day-to-day operation. These EFAs are present in the right ratio for optimum absorbance into the body.

It is also a good source of gamma-linolenic acid (GLA), the main valued content of Evening Primrose Oil, which is believed to help pre-menstrual tension (PMT).

Hemp oil should be taken daily either in liquid or capsule form, it is a delicious nutty oil and is great in salad dressings or mayonnaise. Due to its precious fragile EFAs it should not be used for frying or cooking, however it can be poured over pasta to give extra flavour.

Hemp oil nutritional information

**NORTH CAROLINA HOUSE OF REPRESENTATIVES
COMMITTEE MEETING NOTICE
AND
BILL SPONSOR NOTIFICATION
2015-2016 SESSION**

You are hereby notified that the **House Committee on Agriculture** will meet as follows:

DAY & DATE: Thursday, June 23, 2016
TIME: 10:00 AM
LOCATION: 643 LOB
COMMENTS: Rep. Dixon, Presiding.

The following bills will be considered:

BILL NO.	SHORT TITLE
SB 770	NC Farm Act of 2016.

SPONSOR
Senator B. Jackson
Senator Brock
Senator Cook

Respectfully,

Representative Mark Brody, Co-Chair
Representative Jimmy Dixon, Co-Chair
Representative James H. Langdon, Jr., Co-Chair
Representative Bob Steinburg, Co-Chair

I hereby certify this notice was filed by the committee assistant at the following offices at 4:39 PM on Monday, July 11, 2016.

____ Principal Clerk
____ Reading Clerk – House Chamber

Thomas Goffe (Committee Assistant)



**House Committee on Agriculture
Thursday, June 23, 2016, 10:00 AM
643 Legislative Office Building**

AGENDA

Welcome and Opening Remarks

Introduction of Pages

Bills

BILL NO.	SHORT TITLE
SB 770	NC Farm Act of 2016.

SPONSOR
Senator B. Jackson
Senator Brock
Senator Cook

Presentations

None.

Other Business

Public comment.

Adjournment

