

TEXAS AGRILIFE RESEARCH AT AMARILLO



Improving Life Through Science and Technology

April 25, 2012

MEMORANDUM

TO: Dr. Travis Miller
 Dr. Charles Allen
 Dr. Juan Landivar
 Dr. Leland (Sandy) Pierson
 Dr. Steve Amosson
 Dr. Galen Chandler
 Dr. Seth Murray
 Mr. Thomas H. Marek
 Dr. John Sweeten

SUBJECT: Corn Advisory & Implementation Committee

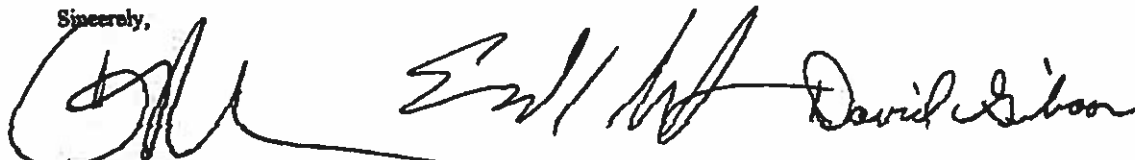
The enclosed "Strategic Analysis and Implementation Plan for Texas' Corn Industry" was recently completed by a committee that included several Texas AgriLife Research and Extension faculty and unit heads, together with leadership of the Texas Corn Producers Board. We appreciate the work of the outgoing (2004-2011) Corn Advisory and Implementation Committee, and numerous others who served on the writing team. We strongly believe the new "Corn Strategic Plan" (found at <http://amarillo.tamu.edu>) will guide corn research and extension programs serving the corn industry in Texas for several years to come.

We are appointing a new "Corn Advisory and Implementation Committee" to serve as an action team representing Texas AgriLife Research, Texas AgriLife Extension Service, and the Texas Corn Producers Board to guide program development and implementation of the Corn Strategic Plan. The committee charge will include planning and implementation of identified strategies and priority programs as well as ensure appropriate communication. It is anticipated that this committee will meet annually or semi-annually, as appropriate.

Dr. Travis Miller has agreed to chair and convene this new committee. Dr. Bill McCutchen, Executive Associate Director, Texas AgriLife Research; Dr. Pete Gibbs, Associate Director, Texas AgriLife Extension Service; and Mr. David Gibson, Executive Director, Texas Corn Producers Board will serve as administrative liaisons for this committee to their respective organizations.

We look forward to your service on this committee and the many forward-leaning programs that will ensure an appropriate response to the shared issues and priorities identified jointly by the corn industry and AgriLife.

Sincerely,



Dr. Craig Nessler
 Director
 Texas AgriLife Research

Dr. Edward Smith
 Director
 Texas AgriLife Extension Service

David Gibson
 Executive Director
 Texas Corn Producers Board

cc: Dr. Mark Hussey
 Dr. Pete Gibbs
 Dr. Bill McCutchen
 Dr. David Baltensperger
 Dr. Steve Searcy
 Dr. John Nichols

Texas AgriLife Research and Extension Center
 6500 W. Amarillo Boulevard
 Amarillo, TX 79106-1769
 Tel. 806.677.3600
 Fax 806.677.3644
<http://amarillo.tamu.edu>

Handwritten: OCT 10 2011

AgriLIFE RESEARCH & EXTENSION

Texas A&M System

October 2, 2011

MEMORANDUM

TO: Resident Directors, Texas AgriLife Research
Department Heads, COALS
District Extension Administrators
Regional Extension Program Directors, Ag & Natural Resources
Directors, Texas Corn Producers Board
2004-2011 Corn Advisory & Implementation Committee

SUBJECT: 2011 Corn Strategic Plan

The enclosed "Strategic Analysis and Implementation Plan for Texas Corn Industry" was recently completed by a committee that included several Texas AgriLife Research and Extension faculty and unit heads, together with leadership of the Texas Corn Producers Board. We appreciate the work of the outgoing (2004-2011) Corn Advisory and Implementation Committee, chaired by Dr. John M. Sweeten, and numerous others who contributed through an expanded writing team (Appendix A). We commend this group for their efforts and vision, and feel that this new Corn Strategic Plan will guide corn research and extension programs serving the corn industry in Texas for several years to come.

In the near future, we will create a new action team representing Texas AgriLife Research, Texas AgriLife Extension Service, and the Texas Corn Producers Board to guide program development and implementation pursuant to the Corn Strategic Plan. The committees charge will include communication, planning and implementation of priority programs and strategies identified herein. It is anticipated that this committee will meet annually or semi-annually, as appropriate.

To provide continuity to the process, Dr. Bill McCutchen, Executive Associate Director, Texas AgriLife Research; Dr. Pete Gibbs, Associate Director, Texas AgriLife Extension Service; and Mr. David Gibson, Executive Director, Texas Corn Producers Board will serve as administrative liaisons for this committee when appointed.

Please share the enclosed document with appropriate faculty members, so that they may be aware of the corn industry and AgriLife issues and priorities. Finally, thanks again for all of the hard work and due diligence by the committee.

Sincerely,

Dr. Craig Nessler
Director
Texas AgriLife Research

Dr. Edward Smith
Director
Texas AgriLife Extension Service

David Gibson
Executive Director
Texas Corn Producers Board

Attachment

cc: Dr. Mark Hussey

Texas AgriLife Research
600 John Kimbrough Boulevard
2142 TAMU
College Station, Texas 77843-2142

Tel. 979.845.8486
Fax. 979.458.4785

Texas AgriLife Extension Service
600 John Kimbrough Boulevard
7101 TAMU
College Station, Texas 77843-7101

Tel. 979.845.7967
Fax. 979.845.9542



OCT 10 2011

STRATEGIC ANALYSIS & IMPLEMENTATION PLAN for TEXAS' CORN INDUSTRY

Prepared by: Corn Advisory and Implementation Committee

Texas A&M AgriLife, Texas A&M University System

- Texas AgriLife Research^{1/}
- Texas AgriLife Extension Service^{2/}
- Texas Corn Producers Board^{3/}

September 9, 2011

STRATEGIC ANALYSIS & IMPLEMENTATION PLAN for TEXAS' CORN INDUSTRY

Prepared by: Corn Advisory and Implementation Committee

Appointed Committee Members designated May 6, 2004 (or replacements) assisting in this revised Strategic Plan were:

John M. Sweeten^{1/}; Chair; David Gibson^{3/}; Executive Director; Charles Allen^{2/}; Brent Bean^{2/}; Juan Landivar^{1/}; Gary Odvody^{1/}; Leland (Sandy) Pierson^{1/}; David Ragsdale^{1/}; and Lloyd Rooney^{1/}

Other Contributing Administrators, Faculty & Producers included:

Steve Amosson^{2/}, Scott Averhoff^{3/}, David Baltensperger^{1/}, Bill Holloway^{1/}, Ron Lacewell^{1/}, Kay Ledbetter^{1/}, Travis Miller^{2/}, Jaroy Moore^{1/}, Charles Ring^{3/}, Dee Vaughan^{3/}, Mark Waller^{2/}, and Bruce Wetzel^{3/}

Administrative Liaisons:

Bill McCutchen^{1/} and Pete Gibbs^{2/}

Texas A&M AgriLife, Texas A&M University System

- Texas AgriLife Research^{1/}
- Texas AgriLife Extension Service^{2/}
- Texas Corn Producers Board^{3/}

September 9, 2011

TABLE OF CONTENTS

	<u>Page</u>
Executive Summary	1
Introduction.....	9
Section A. Corn Production and Management Systems	12
Section B. Targeted Strategic Livestock Feeding Applications	25
Section C. Economic Research and Policy Analysis.....	28
Section D. Corn Breeding and Genetic Improvement	31
Section E. Communications.....	35
Section F. Resource Coordination & Leadership Development.....	38
Summary and Action Plan	43
Appendix A -- Corn Advisory Committee Members & Contributors	45
Appendix B -- Prioritized Rankings of Major Program Areas and Program Elements, TCPB	49
Appendix C -- Aflatoxin Mitigation Center of Excellence	52
Appendix D – Processes for Release/Licensing of New Plant Materials.....	57

List of Tables

Table 1. – 2011 Status of Fulfilling the 2003 Recommended Action Plan	5
Table 2. – Texas Corn Producers Board, Total Research Grants Approved 1998-2011	39
Table A-1. – Corn Advisory and Implementation Committee and other Contributors to the Strategic Plan, 2004-2011	46
Table B-1. – Corn Advisory Committee’s Major Program Areas and Program Elements as ranked within the 6 Major Program Areas by the Texas Corn Producers Board, 2011.....	50

List of Figures

Figure 1. - Components of a successful corn breeding program.....	34
---	----

ACKNOWLEDGEMENTS

The Corn Advisory and Implementation Committee greatly appreciates the efforts of the many faculty, unit heads, and corn producers who gave generously of their expertise and time in developing, writing, or editing sections of this report.

Executive Summary

Corn is a \$1 billion per year industry in Texas. From 2005 to 2009, NASS (2010) reported an average of 2.12 million acres of corn were planted annually in Texas. An average of 237 million bushels of corn were harvested with a farm gate value ranging from \$520 million to \$1.27 billion to Texas producers (\$921 million/year average).

Research and Extension programs are conducted to address the grower's needs, advance scientific discovery, and assure technology transfer. The industry's needs are changing even as knowledge has increased.

The Corn Advisory and Implementation Committee was appointed by administrators of Texas AgriLife Research and Texas AgriLife Extension Service in May 2004. Research and Extension programs are conducted to address the grower's needs, advance scientific discovery, and assure technology transfer. The industry's needs are changing even as knowledge has increased. The Committee was charged with facilitating and monitoring implementation of the "2003 Strategic Analysis and Implementation Plan for Texas' Corn Industry". The Committee was comprised of selected research and Extension unit heads, faculty, and members of the Texas Corn Producers Board (TCPB), as shown in Appendix A. The initial 5-year "Corn Strategic Plan", adopted November 3, 2003, addressed major issues for Texas corn production and recommended actions that would position the research and extension corn programs among the nation's best.

In 2010-2011, the Committee and other selected individuals from Texas AgriLife and the TCPB reviewed the 2003 Strategic Plan and assessed progress toward meeting the recommended objectives and strategies. Of the priorities and/or actions recommended in the 2003 Corn Strategic Plan, most have been addressed (Table 1). However, much work remains to establish pre-eminent research and extension programs in addressing the evolving needs of the state's corn industry. Therefore, the Corn Advisory and Implementation Committee, together with TCPB Board members, have developed appropriate revisions and recommendations for future actions and program focus.

The purpose of this report is to convey a current analysis and Strategic Plan for addressing both scientific and industry needs as of 2010-2011. Actionable objectives and strategies are presented herein, as developed through a consensus of Texas Corn Producers Board members and selected Texas AgriLife Research and Texas AgriLife Extension Service personnel, identified in Appendix A. These team members have identified issues, needs and constraints to the corn industry in Texas. Out of the 2010-2011 re-assessment, the Committee and other participants have recommended several **major program areas** below. Within each Major Program Area, the **high priority* program elements** are listed below to be considered for short or long-range attention by researchers or extension personnel. Likewise, the current level of interest by TCPB board members was indicated from an industry perspective for comparison in the following listing (see also Appendix B), recognizing the changing needs of industry:

Major Program Issue Areas and Potential Research/Extension Program Elements

CORN PRODUCTION AND MANAGEMENT SYSTEMS

- Integrated Pest Management/IPM
- Mycotoxins management/BMPs/systems (Appendix C)
- Cropping systems
- Efficient irrigation and crop water management
- Ground and surface water protection
- Irrigation and pumping system efficiency
- Atoxigenic fungi discovery/development (Appendix C)

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
H	M	H
H	H	H
H	L	M
H	H	H
H	H	H
H	H	M
N/A	VH	H

TARGETED STRATEGIC LIVESTOCK FEEDING APPLICATIONS

- Evaluate the feeding value & economics of distillers grains
- Mitigation of mycotoxins in animal feed production

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
H	L	M
N/A	H	M

ECONOMIC RESEARCH & POLICY ANALYSIS

- Farm Bill Implications policies
- Water economics and water policy
- Impacts of alternative uses of corn
- Master Marketer/price & production risk management
- USDA-FSA/NRCS rules & regulations
- Grain elevator sales and risk
- Crop insurance/education, insurance policies and rules

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
VH	VH	VH
H	VH	VH
VH	L	L
H	H	H
H	H	H
N/A	H	M
N/A	M	M

CORN BREEDING AND GENETIC IMPROVEMENT
(Does not indicate funding priority)

- Drought tolerance
- Mycotoxin resistance/tolerance
- Heat tolerance
- Insect resistance
- Disease resistance/tolerance
- Better-yielding short season varieties

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
VH	H	VH
VH	H	VH
H	H	H
H	H	M
H	H	M
H	H	H

COMMUNICATIONS

- Research & Extension information exchange with industry
- Systematic external communications targeting growers & general public

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
N/A	M	H
N/A	M	M

EMERGING ISSUES

- Water policy and implementation
- Crop insurance ratings, policies & education
- Grain indemnity fund development
- Review action levels for Aflatoxin as pertaining to corn in livestock feed

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
N/A	VH	H
N/A	H	M
N/A	VH	L
N/A	H	M

RESOURCE COORDINATION AND LEADERSHIP DEVELOPMENT

- Congressional internship
- TALL program

Current Priority for:		
TCPB		Texas AgriLife Research and/or Extension
2003	2011	2011
H	H	L
H	H	M

* Priority Designations: VH=very high; H=high priority; M=medium; and L=low.

The 2010-2011 Recommended Action Plan that can address needs of the Texas corn industry is provided in more detail in subsequent sections of this report. These sections were prepared by appropriate Texas AgriLife Research and Extension Service faculty or administrators, with substantial involvement of TCPB leadership including Board Members as well (Appendix A).

Edited by:

**J.M. Sweeten, David Gibson and Bill
McCutchen**

Introduction

Texas Corn Production

Corn is a \$1 billion per year industry in Texas. Over the five years from 2005 to 2009, NASS (2010) reported an average of 2.12 million acres of corn were planted annually in Texas, with an average of 237 million bushels of corn harvested with a farm gate value ranging from \$520 million to \$1.27 billion to Texas producers (\$921 million/year average). Corn producers are represented by Texas Corn Producers Board, which administers the check-off funds for the state, and by the Corn Producers Association of Texas.

Corn planting begins in far south Texas in February and concludes in the northern panhandle in mid-May. Harvest season is normally from late July through November as it progresses from the south to the north. Conditions including natural resource constraints, management practices, and biotic/abiotic stress factors vary considerably among these major production areas. The distance from south to north presents corn producers many varied concerns such as insects, diseases, and weeds, and with moisture and heat stress being common across the whole state in most years. Water availability is a main factor in corn production, whether irrigated or dryland. Energy costs for irrigation are a major concern, as well as groundwater availability and policy, as affected by groundwater district rules and/or state policies.

Most of the corn that is produced in Texas is used for livestock feed with other uses including human food products, industrial usage of corn products, or export. A major growth area in the last 5 years has been grain-based ethanol production, which has expanded to 250 million gallons per year capacity (2% of U.S. total), with Texas ranking 13th in ethanol production capacity (USDA, 2010)* (Source: USDA, 2010. A USDA Regional Roadmap to meeting the Biofuels Goals of the Renewable Fuels Standard by 2022. USDA Biofuels Strategic Production Report, Washington, DC. June 23, 2010. p. 21). According to industry sources, an additional 100 million gallons per year of ethanol capacity is expected to open in Texas in 2011.

Corn Advisory and Implementation Committee

In response to the 2003 plan, the Corn Advisory and Implementation Committee was established by memorandum (May 6, 2004) from the Associate Vice Chancellor, Texas AgriLife Extension Service; Deputy Director, Texas AgriLife Research; and Vice Chancellor and Dean for Agriculture and Life Sciences and Director, Texas AgriLife Research, Texas A&M University System (TAMUS). The administrative Charge to the Committee was stated as follows:

" A strategic plan was recently developed by a committee that included faculty, administration, and commodity leadership. We commend this group for their efforts and vision and feel that this document will provide the platform for charting future corn research and extension programs in Texas. "

"At this time, we would like to create an oversight committee to help with the implementation of the strategic plan for corn. The charge to this committee will be expanded to serve an advisory role to the Agriculture Program (currently Texas A&M AgriLife). It is anticipated that this committee will meet as needed to

develop an action plan with recommendations to aide Texas AgriLife Research and Texas AgriLife Extension Service in serving the corn industry in Texas.

Furthermore, please feel free to involve others in your deliberations as they are needed.

Committee membership, leadership, and administrative liaisons were named in 2003. Appointed committee members represented the following categories (Appendix A):

- Resident Directors TAMUS AgriLife Research and Extension Centers (ARECs) in areas where corn is a significant part of a region's agricultural economy;
- Heads of TAMU Departments having significant disciplinary responsibility for corn;
- Selected members of the Board of Directors, Texas Corn Producers Board.
- Executive Director, Texas Corn Producers Board
- Faculty members with significant corn-related responsibilities.

As noted above, the charge included involving others from the above groups as needed; and this freedom has been liberally construed and used as indicated in Appendix A. In fulfilling the administrative charge, the Committee met 3 times (July 26, 2004 through June 24, 2010), and has produced this consensus report. When adopted by the Committee, this report will be presented to TAMUS AgriLife Administration and Texas Corn Producers Board with recommendations for modifications to the corn strategic plan and further action.

The Corn Advisory and Implementation Committee was organized and positioned to ensure current and future actions which include recommended resource allocations, careful consideration of the issues, and development of program elements articulated in this strategic plan. The committee's job is to ensure strong linkages with leadership of the Texas corn industry in identifying issues, challenges, needs, and opportunities; and assist in developing recommendations that will help foster, develop, and accelerate corn research and extension programs that meet the identified priority needs. Used to maximum advantage, the Committee can provide a forum for exchange of ideas which included developing and articulating a statewide vision and action plan for the corn industry. The Strategic Plan can be used to guide review and prioritization of program requests involving corn research and extension programs across the Texas A&M AgriLife, including Texas AgriLife Research and Texas AgriLife Extension Service in accordance with the identified needs and vision of the state's corn industry.

Vision, Mission, and Major Program Areas

The Corn Advisory and Implementation Committee have developed the following consensus vision and mission:

1. Vision -- Interdisciplinary, multi-agency research and extension programs in corn development, production, management, and utilization shall be the premier source of new and applied knowledge that will help advance the corn industry in Texas.
2. Mission Statement -- Develop and deliver science-based information and knowledge related to improving corn development, production, management, and utilization in Texas, in accordance with the respective missions and program capacities of the Texas

AgriLife Research, the Texas AgriLife Extension Service, and closely-partnering universities (e.g., West Texas A&M University, Texas Tech University, etc.), federal or state agencies (including USDA-ARS), and the corn industry.

3. Major Program Areas -- The Corn Advisory Committee has identified several Major Program Areas that should be vigorously pursued in the next 5 years as resources permit to help meet the challenges of the corn industry in Texas:
 - A. Corn Production and Management Systems
 - B. Targeted Strategic Livestock Feeding Applications
 - C. Economic Research and Policy Analysis
 - D. Corn Breeding and Genetic Improvement
 - E. Communications
 - F. Resource Coordination and Leadership Development

Recommended Program elements, program actions or strategies that will substantially address these Major Program Areas are discussed and listed in subsequent sections. Several important new or emerging issues are mentioned or discussed within the context of the major program areas.

Edited by:

**J.M. Sweeten, Travis Miller,
Charles Allen & Brent Bean**