Soybean and Corn Varieties available for

2012

From Iowa State University

Iowa State University Research Foundation, Inc. (ISURF)
310 Lab of Mechanics
Iowa State University
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Committee for Agricultural Development (CAD)
4611 Mortensen Road
Suite 101
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Seed Plant Phone: 515-291-0507
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http://www.agron.iastate.edu/cad/

Foundation Seed Available for 2012 Planting

Foundation seed of the following varieties are available by contacting Lynn Henn, Production Manager for the Committee for Agricultural Development.

Phone 515-291-0507 Fax 515-337-1032 Email lhenn@iastate.edu

* Experimental designation will be changed once a variety name is assigned.

IA1008	IA1018	IA1022	IA2041	IA2053
IA2067	IA2076	IA3027	IA3027LF	IA4005
A08-351023*	A08-252040*	A07-427027 *	A07-626002 *	

CAD Statement: Although great care is taken to produce and condition our conventional seed to the high certification standards of the Iowa Crop Improvement Association, we will not guarantee the seed to be 100% free of GMOs. Our varieties are tested for the presence of GMOs and those test results are available on request.

IA2079RR2Y	IA2097RR2Y	IA3041RR2Y

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Acceleron®, Acceleron and Design®, Genuity and Design®, Genuity Icons, Roundup Ready 2 Yield®, Roundup Ready®, Roundup®, and Vistive and Design® are trademarks of Monsanto Technology LLC. **Individual results may vary,** and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

New soybean varieties released by Iowa State University in November 2011.

Sixteen new soybean varieties developed by the soybean breeding project of Walter Fehr, Grace Welke, Susan Johnson, and Kevin Scholbrock are being offered for the first time on a non-exclusive basis. Any growers who are interested in having the Committee for Agricultural Development produce foundation seed of the varieties in 2012 should contact Lynn Henn, CAD Production Manager. He may be reached by phone (515-291-0507) or email (lhenn@iastate.edu).

Commodity Yellow

IA2102, A07-427027, A07-626002

Large-seeded, High-Protein

IA2103, IA2104, IA3051

Large-seeded, High-Protein, Aphid Resistant

IA3045 Rag1, IA3027 Rag1 Rag2

Large-seeded, Lipoxygenase-Free

IA2076LF

Large-seeded

A08-255025, A08-358002

1% Linolenic

A08-351023, A08-252040

1% Linolenic, RR2Y

IA2097RR2Y, IA2079RR2Y, IA3041RR2Y

Food Grade Soybean Varieties

MATURITY ZONE I

IA1007 Large Seed

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$1.65

IA1008 Yellow Hila / High Yield / SCN Resistant

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$2.25

IA1008LF Yellow Hila / High Yield / SCN Resistant /Lipoxygenase Free

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$2.25

IA1010 Large Seed

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	Dull	$1.65

IA1018 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Light Tawny	Yellow	Shiny	$2.50

HP204 High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$1.40

MATURITY ZONE II

IA2011 High Protein, Low Lipoxygenase

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$2.50

IA2020 Large Seed

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	n/a	Gray	Yellow	Dull	$2.50

IA2025 Triple-Null Lipoxygenase

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	n/a	Gray	Yellow	Dull	$2.50

IA2041 Large Seed High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	n/a	$2.50

IA2046 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$2.50

IA2053 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Yellow	Dull	$2.50

IA2053LF Large Seed, Lipoxygenase Free

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Yellow	Dull	$2.50

IA2067 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	Dull	$2.50

IA2074 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$2.50

IA2076 Large Seed, Yellow Hilum

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	Dull	$1.90

IA2076 LF Large Seed, Lipoxygenase Free

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	Dull	n/a

IA2103 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Yellow	Dull	n/a

IA2104 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Yellow	Dull	n/a

MATURITY ZONE III

IA3027 Large Seed, High Protein, Yellow Hilum

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$3.00

IA3027LF Large Seed, High Protein, Yellow Hilum, Lipoxygenase free

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$2.97

IA3027RA1 Large Seed, High Protein, Yellow Hilum, Aphid Resistant

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$3.25

IA3027RA12 Large Seed, High Protein, Aphid Resistant

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	n/a

IA3045 Large Seed, High Protein, Yellow Hilum

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Light Tawny	Yellow	Clear	$2.75

IA3045Rag1 Large Seed, High Protein, Aphid Resistant

Additional variety information was not available at time of printing.
Please visit http://www.agron.iastate.edu/cad/ for updated information.

IA3046 Large Seed, High Protein, Yellow Hilum

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Gray	Yellow	Shiny	$2.75

IA3047 Large Seed, High Protein, Yellow Hilum

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	$2.75

IA3051 Large Seed, High Protein

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Brown	Gray	Yellow	Dull	n/a

Modified Oil Soybean Varieties

Description of varieties with 1% linolenic acid and RR2Y

IA2079RR2Y

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Black	Dull	n/a

IA2097RR2Y

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Black	Dull	n/a

IA3041RR2Y

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Light Tawny	Black	Dull	n/a

For 2011 field data of the RR2Y varieties, please visit http://www.croptesting.iastate.edu/soybeans/reports.php

The following varieties were developed at Iowa State University by conventional breeding methods and are non-GMO.

Description of varieties with 1% linolenic acid

IA2079

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	n/a	Tawny	Black	Intermediate	$4.50

IA2096

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	n/a	Tawny	Black	Dull	$3.88

IA2097

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	n/a	Tawny	Black	Dull	$4.50

IA2101

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Imperfect Black	Dull	$4.50

IA3024

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Imperfect Black	Shiny	$3.00

IA3042

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Brown	Tawny	Black	Dull	$4.50

IA3050

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Tawny	Brown	Dull	$4.50

IA4005

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Brown	Tawny	Black	Dull	$4.00

Description of varieties with low saturated fat content.

IA1024

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Black	Dull	$3.88

IA1025

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Light Tawny	Gray	Dull	$4.00

IA2069

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Black	n/a	$3.00

IA2092

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	n/a	Light Tawny	Black	Dull	$3.94

IA2099

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Imperfect Black	Dull	$4.00

For more information, please contact Julie JG Minot, Seed Licensing Associate, ISURF, 310 Lab of Mechanics, Ames, IA 50011 Phone: 515-294-9442 Fax: 515-294-0778 Email: jjgus@iastate.edu

General Use Soybean Variety Descriptions

IA1006

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Brown	Tawny	Black	Dull	$0.25

IA1006 has excellent brown stem rot resistance.

IA1022

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$3.00

IA1022 is a general-use variety with yellow hila color and resistance to the soybean cyst nematode.

IA2008R

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Buff	Dull	$0.25

IA2008R has specific resistance to Rps1-k of Phytophthora rot and resistance to brown stem rot.

IAR2101 SCN

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Tan	Gray	Yellow	Dull	$2.50

IAR2101 SCN possesses a new source of resistance to SCN, PI507354.

IA2102

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Tan	Gray	Yellow	Dull	n/a

IAR3001 Phyto/SCN

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
Purple	Brown	Tawny	Black	Dull	$2.50

This general use variety has two unique features, a new gene that confers resistance to Phytophthora root rot, and new sources of resistance to SCN.

IAR2001 BSR

Flower	Pod	Pubescence	Hilum	Coat	Royalty per 50 lb unit planted
White	Brown	Tawny	Brown	Dull	$3.00

IAR2001 BSR is a high-yielding brown stem rot resistant variety.

Germplasm lines being released for research and breeding purposes

AR4SCN, AR5SCN, AR6SCN, AR7SCN, AR8SCN are five germplasm lines developed by Iowa State University for breeders seeking to develop early maturity groups of soybeans including SCN resistant cultivars, germplasm lines or genetic stocks.

AR9BSR is highly resistant to Phialophora gregata, the fungus that causes Brown Stem Rot (BSR) in soybean. The line is adapted to environmental conditions in Iowa and may be used in breeding to develop BSR-resistant cultivars.

AR10SDS is highly resistant to Fusarium virguliforme, the fungus that causes Sudden Death Syndrome (SDS) in soybean. The line is adapted to environmental conditions in Iowa and may be used in breeding to develop SDS-resistant cultivars.

A95-684043 SCN Resistant

Flower	Pod	Pubescence	Hilum	Coat
Purple	Brown	Tawny	Black	Dull

A95-684043 is resistant to SCN phenotypic races 1,3, and 5.

AR1, AR2, AR3

ISURF is pleased to announce that three soybean germplasm lines are being released for research and breeding purposes. AR1 has dual disease resistance, and AR2 and AR3 are highly Fe-efficient. Use of each or any of the three new germplasm lines might be beneficial in further breeding efforts.

AR1 is resistant to soybean cyst nematode and Phytophthora root rot. The specific resistance to Phytophthora root rot is conferred by the gene *Rps1-k* which protects the soybean from numerous Phtytophthora root rot races present in the state of Iowa. *Rps1-k* provides resistance to Races 1-11, 13-15, 17, 18, 21-22, 24, and 26. It is also resistant to SCN phenotypic Race 3 (H.G. Type 0) and moderately resistant to Race 4 (H.G. Type 2.5.7). AR1 has purple flowers, tawny pubescence, tan pods at maturity, and seeds with black hila in its majority (95% black hila and 5% brown hila) and dull seed coat.

Resistance of AR1 to Phytophthora root rot and to SCN has been extensively evaluated and confirmed by different means, i.e. greenhouse inoculations for Phytophthora root rot. For SCN, plantings on SCN-infested soil were conducted to determine the H.G. type, and molecular analysis has been done to determine QTL associated with SCN resistance. It possesses QTL N, as determined by molecular analysis which is different from the Peking allele that also confers resistance to SCN.

It is a Maturity Group II. AR1 has adequate yield and it is adapted to environmental conditions in the state of Iowa and other states in which soybeans of MG II are planted.

Because of its dual-disease resistance (SCN and Phytophthora root rot) and its adequate seed yield, it may be used in breeding to develop SCN- and Phythophthora root rot-resistant soybean lines with improved yield potential.

AR2 and AR3 are soybean germplasm lines which are highly Fe-efficient when planted on calcareous soils in Iowa. The Fe-efficiency score has been proven to be associated with molecular marker Satt481 that may be used in further breeding efforts as a molecular marker. The lines may be used in breeding to develop IDC-resistant lines with improved yield potential. AR2 is of Maturity Group II, similar in maturity to Century 84, and AR3 is eight days earlier than Century84

If you are interested in obtaining seed of these lines, packets of 50 seeds will be available for $200.00 and distributed on a first come basis for research and crossing. A license agreement must be signed with the Iowa State University Research Foundation Inc. and payment must be received prior to receiving seed.

Licensing Information

Seed is distributed under license agreements with the Iowa State University Research Foundation Inc.
Interested parties should contact:
Julie JG Minot
Seed Licensing Associate
ISURF
310 Lab of Mechanics, ISU
Ames, Iowa 50011-2131
phone (515) 294-9442, FAX (515) 294-0778, e-mail jjgus@iastate.edu.

Sample Agreements

Soybean Research and Germplasm Development Agreement

This AGREEMENT made_____ by and between the Iowa State University Research Foundation, Inc. (hereinafter called ISURF), and _____ (hereinafter called "COMPANY").

Whereas, COMPANY has requested a sample of the following proprietary soybean germplasm which is the exclusive property of ISURF.

ISURF agrees to supply seed of the above germplasm and COMPANY agrees to abide by the following terms of the AGREEMENT:

1. Seed provided may be used for basic research, field testing, product evaluation or crossing only.
2. The germplasm may be used for crossing to develop varieties or segregating populations, but each germplasm strain will not contribute more than 50% of the genes to a variety or population.
3. Any variety or population derived from this germplasm must be commercially licensed from ISURF prior to release or distribution. ISURF reserves the right to collect a royalty on any commercial product developed with the germplasm under this AGREEMENT. Royalties may be collected on all commercialized varieties containing twenty five percent (25%) or more of the ISURF germplasm by pedigree. Royalties will not be collected on commercialized varieties containing less than twenty five percent (25%) of ISURF germplasm by pedigree.
4. No transformation techniques will be used with this germplasm without prior written consent of ISURF.
5. No mutagenesis, tissue culture, or molecular or cellular techniques will be conducted with any seeds, plants, or plant parts of the germplasm without prior written consent of ISURF.
6. No selection will be conducted within the germplasm.
7. Seed stock increases of the germplasm will not be conducted.
8. No seeds, plants, or plant parts of the germplasm will be distributed to a third party.

COMPANY may conduct and publish results of research on this germplasm and/or genetic stocks, cultivars, hybrids and/or germplasm developed with the germplasm listed above without prior approval of ISURF. COMPANY agrees to duly acknowledge the contributions of the Iowa State University breeding program in the provision of the germplasm in all publications.

The germplasm is provided "As Is" without warranty of any sort, expressed or implied. The recipient agrees to bear all risk resulting from the use of the germplasm and anything derived therefrom.

In Witness whereof, the parties have executed this Agreement the day and year first written above.

SAMPLE SOYBEAN COMMERCIALIZATION AGREEMENT

SOYBEAN COMMERCIALIZATION AGREEMENT FOR FOOD-GRADE OR GENERAL-USE VARIETIES

THIS AGREEMENT is made and entered into_____ by and between the IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. an Iowa non-profit corporation (hereinafter called "ISURF"), and _____. (hereinafter called "LICENSEE").

WITNESSETH:

WHEREAS, it is the mutual desire of ISURF and LICENSEE to promote production of the following soybean variety [Licensed Variety] developed by Iowa State University:

IAXXXX

WHEREAS, ISURF and LICENSEE believe that the granting of non-exclusive rights to LICENSEE for the production, promotion, distribution, and sale of the LICENSED VARIETY, as defined herein, is a means of achieving this goal; and

WHEREAS, the parties further believe that this Agreement is in the best interests of and will further the purpose of their two organizations, and that it will benefit agriculture; and

NOW THEREFORE, in consideration of the promises and mutual covenants contained herein, the parties agree as follows:

ARTICLE I – DEFINITIONS

For the purposes of this Agreement, the following terms shall be defined as follows:

1.1 Parent Seed – Seed of the Licensed Variety produced by or for ISURF, or produced by the LICENSEE, that is used by the LICENSEE or its contract growers, to produce additional Parent Seed or Commercial Grain, or is sold by the LICENSEE for production of additional parent seed or Commercial Grain. Production of additional Parent Seed must be inspected by a state or provincial certification agency and the records of that inspection made available to ISURF and accompany the royalty reports discussed hereinafter. Other certification agencies or LICENSEE's inspection systems must be approved in advance by ISURF.

1.2 Commercial Grain – Grain produced for sale to commercial grain users that is not used for replanting.

1.3 Contract Grower – Grower who produces Parent Seed or Commercial Grain under contractual obligation to LICENSEE, which retains ownership interest in said production.

1.4 Licensed Variety – Soybean variety IAXXXX including all plant parts, cells and derivatives thereof that retain the essential features and characteristics of soybean variety IAXXXX.

1.5 Territory – The United States of America and Canada.

ARTICLE II – GRANT OF LICENSE

2.1 ISURF grants to LICENSEE the non-exclusive right to use, produce, and sell the variety under this agreement for five years. ISURF reserves the right under this agreement to use and sell the variety and to distribute the variety for breeding and research purposes.

2.2 LICENSEE agrees that Parent Seed provided under the terms of this agreement may be used by the LICENSEE for production and commercialization of the Licensed Variety only. No breeding, crossing, transformation, or selection will be allowed under this agreement. Licensed Variety shall not be transferred outside of the Territory without ISURF's prior written consent.

2.3 LICENSEE agrees that the Licensed Variety is the property of ISURF. LICENSEE shall have no rights with respect to the Licensed Variety, except as may be expressly granted hereunder. LICENSEE shall not apply for any patent or other right and shall not divulge or disclose any information, material or documents, concerning this Agreement or the rights contained hereunder or make available in any way or use the aforesaid Licensed Variety, except as expressly provided in this Agreement, without the prior written consent of ISURF. ISURF will have the right to pursue legal protection of the Licensed Variety, the rights of which will be owned by ISURF.

2.4 ISURF or its designated agents will maintain foundation seed of the Licensed Variety.

2.5 LICENSEE agrees to pay ISURF a royalty as determined in Article IV.

2.6 Should LICENSEE decide not to pursue commercialization of the Licensed Variety, its entire supply of Parent Seed and Commercial Grain shall be disposed of as directed by ISURF.

2.7 Branding of Commercial Grain of the Licensed Variety by the LICENSEE is permitted provided all State and Federal regulations are followed. The brand designation must be provided to ISURF in writing. Branding of Parent Seed will require ISURF's prior written consent. The name of the Licensed Variety on all Soybean Commercialization Agreements will be the ISU designation regardless of brand name.

2.8 All seed sold must be labeled with the following notification that is printed on a bag or other seed container, printed on a tag attached to the bag or seed container, or printed on a sticker applied to the bag or seed container.

Seed label: IMPORTANT NOTICE. BY PURCHASING THIS PRODUCT AND NOT RETURNING IT WITHIN THE NUMBER OF DAYS SPECIFIED BY LICENSEE OR ITS AUTHORIZED SEED DISTRIBUTOR YOU ACKNOWLEDGE A CLEAR UNDERSTANDING AND AGREE TO THE RESTRICTIONS AND RIGHTS OF USE AS STATED HEREIN AND ON THE ACCOMPANYING DOCUMENTS, INCLUDING PURCHASE ORDERS. THESE SEEDS ARE OF SOYBEAN GERMPLASM THAT IS THE EXCLUSIVE INTELLECTUAL PROPERTY OF THE IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. GRAIN HARVESTED FROM THIS SEED CANNOT BE USED FOR REPLANTING OR TRANSFERRED TO OTHERS FOR REPLANTING WITHOUT A LICENSE AGREEMENT FROM THE IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. **IF YOU DO NOT AGREE WITH THESE TERMS, DO NOT OPEN THIS BAG**.

2.9 LICENSEE must have each seed purchaser read and sign or initial the following agreement that is placed on their purchase order form or equivalent document.

PURCHASER'S LICENSE: THE IOWA STATE UNIVERSITY RESEARCH FOUNDATION INC., 310 LAB OF MECHANICS, IOWA STATE UNIVERSITY, AMES, IA 50011, HEREBY GRANTS THE PURCHASER OF THIS SOYBEAN SEED A LIMITED LICENSE TO USE IT FOR THE SOLE PURPOSE OF PRODUCING A SINGLE CROP AND NOT TO SAVE ANY GRAIN PRODUCED FROM THIS SEED FOR REPLANTING. PURCHASER AGREES NOT TO SUPPLY ANY OF THIS SEED TO ANY OTHER PERSON OR ENTITY FOR PLANTING OR REPLANTING. PURCHASER FURTHER AGREES NOT TO USE THE SEED OR TO PROVIDE IT TO ANYONE ELSE FOR BREEDING, GENETIC MODIFICATION BY ANY TECHNIQUE, OR SEED PRODUCTION.

2.10 To the extent that the provisions of the seed label and purchaser's license in sections 2.8 and 2.9 are inconsistent with the terms of this agreement, this agreement supersedes the seed label and purchaser's license for LICENSEES who have executed this agreement.

2.11 If LICENSEE uses contract growers for Parent Seed or Commercial Grain production, LICENSEE shall insure that all Parent Seed and Commercial Grain regardless of seed quality is returned to LICENSEE or to a location specified by LICENSEE. LICENSEE will MAINTAIN AND SUPPLY UPON REQUEST to ISURF a list of all such contract growers including: names and addresses, along with the number of units and acreage planted by each contract grower.

2.12 LICENSEE must notify any lien holder of the restrictions on the use and disposition of the Licensed Variety.

ARTICLE III – DUE DILIGENCE

3.1 LICENSEE shall use its best efforts to bring the Licensed Variety to market through a thorough, vigorous and diligent program.

ARTICLE IV – ROYALTIES

4.1 LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, royalties of $ (APPROPRIATE AMOUNT FOR EACH VARIETY) per 50-pound unit, or equivalent amount for other size units of Parent Seed used to produce additional Parent Seed or Commercial Grain, unless the Parent Seed was purchased from another licensee who is responsible for the royalty payment. LICENSEE will be responsible for royalty payments due to ISURF for seed sold or distributed under the terms of this agreement. Royalties will be due and payable annually on the September 1 following the previous July 1 - June 30 fiscal year during which Parent Seed is planted for the production of additional Parent Seed or Commercial Grain. For example, for Parent Seed planted during the period from July 1, 2011 to June 30, 2012, payment will be due September 1, 2012. Upon request by ISURF, its auditor, or its designated representative, LICENSEE shall make available sufficient records to verify the amount of Parent Seed used for planting.

4.2 LICENSEE shall keep full, true and accurate books of account containing all particulars that may be necessary for the purpose of showing the amounts payable to ISURF hereunder. These records shall include, but are not limited to the following: Name of the purchaser, number of 50-pound units or the equivalent of other size units sold or distributed for planting, number of acres planted with the seed, or a reasonable estimate thereof, if used to produce additional Parent Seed under contract with the LICENSEE; and disposition of seed harvested by or for the LICENSEE the previous year that was not sold or used for planting. Said books of account shall be kept at LICENSEE's principal place of business or the principal place of business of the appropriate division of LICENSEE to which this Agreement relates. Said books and the supporting data shall be open at all reasonable times for five (5) years following the end of the calendar year to which they pertain, to the inspection of ISURF or its agents for the purpose of verifying LICENSEE's royalty statement or compliance in other respects with this Agreement.

If any sum of money owed to ISURF hereunder is not paid when due, the unpaid amount shall bear interest, compounded annually, at an annual rate which is the lesser of four (4) percentage points above the prime rate quoted by Chase Manhattan Bank of New York on the day payment was due and the maximum lawful interest rate permitted under applicable law. Such interest shall accrue on the balance of unpaid amounts from the date such amounts become due and owing until payment or offset thereof in full.

4.3 Licensed Variety purchased or produced under this Agreement shall under no circumstances be sold or distributed to third parties for production or sale of Parent Seed or Commercial Grain who are not contract growers of the LICENSEE, unless the third party also has executed a Soybean Commercialization Agreement with ISURF. LICENSEE will provide to ISURF the name of the third parties and the number of 50-pound units or equivalent of other size units sold or distributed to them. LICENSEE will be responsible for royalty payments due to ISURF for the Parent Seed sold or distributed to third parties.

ARTICLE V – TERM and TERMINATION

5.1 LICENSEE shall have the right to cancel or terminate this Agreement at any time after six months written notice to ISURF, provided, however, that such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising prior to such termination.

5.2 If LICENSEE should fail to exercise the diligence required in Article III hereof, or to deliver to ISURF any agreement, payment, statement, report or other document required to be delivered at the time or times that the same shall be made, or shall use the Licensed Variety for purposes not herein expressly authorized or if LICENSEE shall violate or fail to keep or perform any obligation, term or condition of this Agreement on its part to be kept or performed hereunder, then and in such event ISURF may give written notice of such breach or default to LICENSEE, specifying the default which is claimed and if LICENSEE should fail to repair such breach or default in sixty (60) days from receipt by it of such notice, ISURF shall have the right to cancel or terminate this Agreement by written notice to LICENSEE. Upon delivery of such notice of cancellation or termination to LICENSEE, this Agreement shall be terminated but termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any obligation of LICENSEE arising prior to termination.

It is further agreed that should LICENSEE be adjudged bankrupt, become insolvent or enter into or make a composition with or assignment to its creditors, then and in such event, this license shall automatically terminate without notice but such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising prior to termination, and all seeds of the Licensed Variety covered under this Agreement are to be disposed of as directed by ISURF.

5.3 This Agreement shall remain in effect until five years after date of the Agreement, unless sooner terminated by either party upon six months written notice of intent to terminate. In the event this Agreement expires or terminates for any reason, LICENSEE will dispose of all Parent Seed and Commercial Grain as directed by ISURF.

ARTICLE VI - NON-USE OF NAMES

6.1 Neither ISURF, nor LICENSEE or any of its growers shall use the name of either party to this Agreement in any advertising or publicity relating to the Licensed Variety without prior written permission of that party. Authorization is hereby given to LICENSEE to make statements in such advertising or publicity that the Licensed Variety is licensed by ISURF.

6.2 ISURF retains the right to disclose to the public the transfer of this technology and the existence of this Agreement with the LICENSEE.

ARTICLE VII - INFRINGEMENT

7.1 In the event that LICENSEE shall learn of infringement of the Licensed Variety, or wrongful use of the Licensed Variety, LICENSEE shall notify ISURF in writing to such effect and provide ISURF with evidence thereof in LICENSEE's possession. ISURF shall use its best efforts to terminate the infringement or wrongful use without litigation. If such efforts are not successful, ISURF, in its sole discretion, may cause suit to be brought for infringement or other wrongful use. If requested by ISURF, LICENSEE agrees to cooperate with ISURF or ISURF's designee in any infringement or other proceeding that ISURF may institute.

ARTICLE VIII – WARRANTIES and INDEMNIFICATION

8.1 ISURF warrants that it is the owner of the Licensed Variety and has the right to grant the licenses granted to LICENSEE in this Agreement.

8.2 ISURF makes no warranty, express or implied, that the Licensed Variety will be successful for the commercial production of soybean seed.

8.3 EXCEPT AS OTHERWISE MAY BE EXPRESSLY SET FORTH IN THIS AGREEMENT, THE LICENSED VARIETY IS LICENSED "AS IS" WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES WHATSOEVER. ISURF MAKES NO REPRESENTATIONS, EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITIES WHATSOEVER WITH RESPECT TO THE USE, SALE, OR OTHER DISPOSITION BY LICENSEE OR ITS VENDEES OR OTHER TRANSFEREES OF THE VARIETY LICENSED UNDER THIS AGREEMENT.

8.4 ISURF makes no representations, warranties or conditions other than those expressed in this clause. The liability of ISURF with respect to any misdescription of or deviation from the characteristics of the Licensed Variety with respect to any misrepresentation or breach of condition or warranty, expressed or implied, is limited to

refunding the royalty paid to ISURF by LICENSEE.

8.5 While it is believed that the ordinary and anticipated use of the Licensed Variety will not result in safety or health hazards to workers or to purchasers of such products, there is no warranty or guarantee against such health or safety hazards.

8.6 Care was taken during seed multiplication to avoid GMO contamination; however the seed is not guaranteed to be GMO free. No representations or warranties are made regarding seed purity, or any other express or implied warranties.

8.7 LICENSEE agrees that it is solely responsible for and will indemnify and hold harmless ISURF, its trustees, officers, employees, affiliates, from any suits, costs or charges as a result of the production, use or sale by LICENSEE of the Licensed Variety.

8.8 LICENSEE shall obtain and carry in full force and effect liability insurance that shall protect LICENSEE and ISURF in regard to events covered by 8.6 above.

ARTICLE IX - WAIVER

9.1 This Agreement may be modified at any time by mutual consent of both parties. Such modifications shall be in writing, signed by both parties, and made a part of this Agreement.

9.2 It is agreed that no waiver by either party hereto of any breach or default of any of the covenants or requirements herein set forth shall be deemed a waiver as to any subsequent or similar breach or default.

9.3 This Agreement terminates all prior arrangements written or oral and incorporates the entire Agreement of the parties. It shall be modified only in writing and signed by both parties. This Agreement is made in the state of Iowa and shall be governed by and construed in accordance with its laws.

9.4 Any notices or reports required to be sent to either party to this Agreement shall be deemed received when sent by certified first-class mail, postage prepaid, to the attention of the party as set forth below:

To: Iowa State University Research Foundation, Inc.
310 Lab of Mechanics
Ames, Iowa 50011-2131

To: LICENSEE:

Attn:

9.5 If one or more of the provisions of this Agreement shall be held to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective proper officers.

2011 Elite Soybean Test North, Iowa State University
Ames, Charles City, Eldora, and Kanawha, Iowa

Entry	Yield	Group	Maturity	Lodging	Height	Seed weight		Protein	Oil	Chlorosis	Palmitic	Stearic	Palmitic + Stearic	Oleic	Linoleic	Linolenic	Character
	bu/a	rank	date	score	inches	mg/sd	sds/lb	%	%	score	%	%	%	%	%	%	
IA2094	61.8	2	9/25	2.1	39	150	3030	33.7	19.0	3.4	9.5	4.0	13.4	22.2	56.8	7.6	Commodity, yellow hilum
†IA2102	69.4	1	9/26	2.6	40	144	3140	34.3	18.5	2.6	10.5	4.6	15.1	21.4	55.0	8.5	Commodity, yellow hilum
#A07-427027	61.7	3	9/26	1.8	38	154	2940	33.5	18.3	2.8	10.4	4.4	14.8	22.2	54.9	8.1	Commodity, yellow hilum
IA1008	58.2	2	9/15	1.9	42	161	2820	33.5	19.0	2.9	10.6	4.2	14.7	23.5	54.4	7.4	SCN resistant, yellow hilum
IA1022	63.9	1	9/16	1.9	34	143	3180	31.5	20.5	3.5	10.8	4.1	14.9	23.4	53.9	7.8	SCN resistant, yellow hilum
IA2096	61.0	1	9/20	1.8	38	142	3180	34.0	18.7	3.6	11.1	4.6	15.7	23.1	60.0	1.2	1% linolenic
IA2079	59.9	3	9/24	1.9	38	144	3140	34.2	18.4	2.9	10.4	4.9	15.2	24.9	58.7	1.2	1% linolenic
IA2101	60.0	2	9/29	1.9	38	156	2910	33.4	17.8	3.1	9.9	4.7	14.6	25.3	58.7	1.4	1% linolenic
IA2069	62.0	1	9/14	1.3	31	158	2880	34.1	18.9	3.4	3.8	3.1	6.9	24.9	59.8	8.4	Low saturates
IA1024	54.7	7	9/15	2.1	36	168	2690	34.0	18.9	3.5	3.9	3.0	6.9	25.8	59.6	7.7	Low saturates
IA1025	61.1	2	9/16	2.0	39	159	2860	34.0	18.0	3.1	3.8	3.3	7.1	26.7	57.7	8.6	Low saturates
IA2092	59.9	4	9/16	1.5	34	155	2920	33.6	18.9	4.2	3.8	3.4	7.2	29.9	55.6	7.4	Low saturates
IA2095	57.0	6	9/21	1.9	36	151	3010	33.7	18.1	4.3	4.0	3.3	7.3	26.2	58.4	8.1	Low saturates
IA2099	60.8	3	9/27	2.0	37	135	3350	32.9	18.3	3.3	3.8	3.5	7.3	25.2	59.0	8.5	Low saturates
IA2100	57.3	5	9/29	2.2	37	161	2830	33.2	18.4	2.9	3.7	3.3	7.0	24.4	60.7	7.9	Low saturates
IA1010	56.3	2	9/13	1.7	35	246	1840	34.9	18.8	3.1							Large seed
IA2076	60.3	1	9/15	2.1	35	234	1940	34.7	19.0	3.4							Large seed
IA2067	50.4	6	9/14	1.9	40	175	2600	37.3	18.3	2.5							Large seed & high protein
IA1018	53.6	5	9/15	1.9	38	231	1970	36.9	18.2	3.0							Large seed & high protein
†IA2104	56.3	2	9/19	1.8	34	201	2260	36.1	18.4	3.5							Large seed & high protein
IA2046	54.9	3	9/21	2.0	35	200	2270	36.2	18.3	3.5							Large seed & high protein
†IA2103	58.8	1	9/22	1.9	36	208	2180	36.2	18.1	3.0							Large seed & high protein
IA2053	54.4	4	9/25	2.2	40	195	2330	37.3	17.8	3.6							Large seed & high protein
IA2011	53.0		9/13	2.0	37	181	2500	34.9	19.3	2.9							Lacks lipoxygenase-2
IA1010LF	56.5	2	9/13	1.7	36	167	2720	35.2	18.8	2.8							Lipoxygenase free
IA1008LF	58.1	1	9/16	1.8	42	244	1860	34.4	19.1	3.6							Lipoxygenase free, SCN resistant, yellow hilum
IA2053LF	53.9	3	9/23	2.1	38	195	2320	37.0	17.9	2.8							Lipoxygenase free

†New variety released in November 2011. Foundation seed will be produced in 2012 by the Committee for Agricultural Development. Contact Lynn Henn. Phone: 515-292-3497; E-mail: lhenn@iastate.edu

#Foundation seed produced in 2011 by the Committee for Agricultural Development is available to interested growers for planting in 2012.

Yield: Bushels/acre at 13% moisture
Maturity: Month/Day
Lodging: 1=Erect, 5= Prostrate

Protein and oil: 13%-moisture basis
Iron-deficiency chlorosis score: 1=No chlorosis, 5=Severe chlorosis

For information about the test, contact Walter Fehr, Department of Agronomy, Iowa State University, Ames, IA 50011.
Phone: 515-294-6865; E-mail: *wfehr@iastate.edu*

For information on licensing soybean varieties developed by Iowa State University, contact Julie Minot, Iowa State University Research Foundation, Inc., 310 Lab of Mechanics, Iowa State University, Ames, IA 50011-2131.
Phone: 515-294-9442; Fax: 515-294-0778; E-mail: *jjgus@iastate.edu* Website: *http://www.public.iastate.edu/~isurf/*

The soybean varieties developed by Iowa State University were made possible through the financial support of the Iowa Soybean Association and the United Soybean Board.

2011 Elite Soybean Test Central, Iowa State University
Ames, Carlisle, Eldora, and Rippey, Iowa

Entry	Yield	Group	Maturity	Lodging	Height	Seed weight		Protein	Oil	Chlorosis	Palmitic	Stearic	Palmitic + Stearic	Oleic	Linoleic	Linolenic	Character
	bu/a	rank	date	score	inches	mg/sd	sds/lb	%	%	score	%	%	%	%	%	%	
IA2094	62.4	3	9/23	2.1	37	144	3150	33.6	19.4	3.4	9.8	3.9	13.7	22.3	56.8	7.1	Commodity, yellow hilum
#A07-427027	68.2	2	9/26	1.7	38	155	2940	33.6	18.6	2.8	10.6	4.1	14.8	21.8	55.4	8.1	Commodity, yellow hilum
†IA2102	70.2	1	9/28	2.6	40	141	3230	34.3	18.8	2.6	10.8	4.3	15.1	19.9	56.1	8.9	Commodity, yellow hilum
#A07-626002	60.1	4	10/1	2.2	37	161	2810	33.0	19.0	3.9	9.8	4.0	13.8	21.8	56.1	8.3	Commodity, yellow hilum
IA1008	58.5	2	9/16	2.3	40	160	2840	33.6	19.3	2.9	10.8	4.2	15.0	22.8	54.6	7.7	SCN resistant, yellow hilum
IA1022	62.0	1	9/18	1.9	33	145	3130	31.5	21.0	3.5	11.1	4.0	15.1	23.1	53.9	7.9	SCN resistant, yellow hilum
IA2079	59.9	5	9/22	1.8	36	162	2790	34.1	18.9	2.9	10.5	4.8	15.2	24.8	58.7	1.2	1% linolenic
IA2097	59.8	6	9/27	2.0	38	155	2930	34.2	18.7	3.4	10.0	4.8	14.7	23.8	60.3	1.2	1% linolenic
IA3042	60.3	4	9/28	1.9	36	142	3190	34.7	18.5	4.0	10.8	5.0	15.7	22.8	60.1	1.3	1% linolenic
IA2101	63.2	2	9/29	1.9	38	157	2880	33.5	18.3	3.1	10.0	4.5	14.5	24.8	59.3	1.4	1% linolenic
IA3050	64.7	1	9/30	1.6	36	149	3040	34.6	18.3	3.1	10.6	4.7	15.2	25.1	58.3	1.3	1% linolenic
IA3024	61.2	3	9/30	2.0	38	142	3200	32.5	19.2	2.9	10.2	4.5	14.7	25.7	58.3	1.3	1% linolenic
#A08-252040	59.3	7	9/30	2.5	40	157	2890	34.0	19.0	4.1	10.9	4.4	15.3	22.8	60.4	1.4	1% linolenic, SCN resistant
IA1025	62.0	1	9/17	2.0	37	169	2680	34.2	18.5	3.1	3.8	3.2	7.0	28.7	56.1	8.2	Low saturates
IA2099	61.5	3	9/28	2.0	35	137	3310	32.8	19.0	3.4	3.8	3.4	7.1	26.0	58.6	8.2	Low saturates
IA2100	62.0	1	9/29	2.1	37	131	3470	33.1	19.0	2.9	3.6	3.2	6.8	24.3	61.0	7.9	Low saturates
ZFS 291	56.8	6	9/29	1.8	40	172	2630	33.5	19.3	3.3	3.7	3.3	7.1	24.3	60.7	7.9	Low saturates
IA3049	60.2	4	10/1	2.2	38	156	2910	34.2	18.5	3.9	3.6	3.4	7.0	25.8	59.1	8.2	Low saturates
IA3026	57.6	5	10/1	2.5	44	152	2990	32.9	18.0	3.4	3.9	3.3	7.2	23.9	60.6	8.2	Low saturates
IA1010	50.8	4	9/13	1.6	34	258	1760	34.9	19.4	3.1							Large seed
IA2076	57.3	1	9/16	1.8	33	260	1740	34.6	19.4	3.4							Large seed
IA2040	52.6	3	9/20	2.0	35	244	1860	36.2	18.9	3.6							Large seed
***A08-255025**	56.7	2	9/25	2.2	35	271	1670	35.0	19.4	2.5							Large seed
IA1018	58.0	5	9/16	2.0	35	177	2560	36.5	18.7	3.0							Large seed & high protein
IA2041	53.6	14	9/18	2.0	38	177	2570	37.4	18.6	3.1							Large seed & high protein
IA2067	50.5	15	9/18	1.9	36	241	1880	37.2	18.8	2.5							Large seed & high protein
IA2046	56.6	11	9/19	1.8	35	209	2170	36.6	18.3	3.5							Large seed & high protein
IA2074	53.9	13	9/20	1.8	34	201	2250	37.7	18.0	3.1							Large seed & high protein
†IA2104	57.1	7	9/21	1.7	33	212	2140	36.7	18.5	3.5							Large seed & high protein
†IA2103	56.9	9	9/23	1.8	34	212	2140	36.5	18.3	3.0							Large seed & high protein
IA3021	54.2	12	9/23	1.9	37	209	2170	36.8	18.8	3.0							Large seed & high protein
IA3046	57.8	6	9/24	2.1	35	201	2260	37.0	18.0	2.7							Large seed & high protein
IA2053	56.8	10	9/24	2.2	38	211	2150	37.5	18.1	3.6							Large seed & high protein
†IA3051	63.2	1	9/25	2.1	37	203	2240	37.9	17.7	3.1							Large seed & high protein
IA3027	61.3	2	9/25	2.0	35	208	2180	37.3	17.7	2.5							Large seed & high protein
IA3047	59.1	4	9/25	2.4	38	208	2190	36.7	18.1	3.0							Large seed & high protein
IA3027RA1	59.6	3	9/30	2.0	38	210	2160	36.9	17.7	2.5							Large seed & high protein
IA3045	57.1	7	10/1	2.4	40	197	2300	38.1	17.3	2.4							Large seed & high protein
IA1010LF	53.2	4	9/13	1.6	33	166	2730	35.7	19.2	2.8							Lipoxygenase free
IA1008LF	58.6	1	9/15	1.9	40	255	1780	34.0	19.4	3.6							Lipoxygenase free, SCN resistant, yellow hilum
IA2053LF	56.8	3	9/20	2.3	37	203	2240	36.9	18.4	2.8							Lipoxygenase free
IA3027LF	58.2	2	9/27	2.1	36	207	2190	36.5	18.0	2.8							Lipoxygenase free

†New variety released in November 2011. Foundation seed will be produced in 2012 by the Committee for Agricultural Development. Contact Lynn Henn. Phone: 515-292-3497; E-mail: lhenn@iastate.edu

#Foundation seed produced in 2011 by the Committee for Agricultural Development is available to interested growers for planting in 2012.

***Available for foundation seed production in 2012 by the Committee for Agricultural Development.**

Yield: Bushels/acre at 13% moisture
Maturity: Month/Day
Lodging: 1=Erect, 5= Prostrate

Protein and oil: 13%-moisture basis
Iron-deficiency chlorosis score: 1=No chlorosis, 5=Severe chlorosis

For information about the test, contact Walter Fehr, Department of Agronomy, Iowa State University, Ames, IA 50011.
Phone: 515-294-6865; E-mail: *wfehr@iastate.edu*

For information on licensing soybean varieties developed by Iowa State University, contact Julie Minot, Iowa State University Research Foundation, Inc., 310 Lab of Mechanics, Iowa State University, Ames, IA 50011-2131.
Phone: 515-294-9442; Fax: 515-294-0778; E-mail: *jjgus@iastate.edu* Website: *http://www.public.iastate.edu/~isurf/*

The soybean varieties developed by Iowa State University were made possible through the financial support of the Iowa Soybean Association and the United Soybean Board.

2011 Elite Soybean Test South, Iowa State University
Ames, Agency, Carlisle, and Greenfield, Iowa

Entry	Yield	Group	Maturity	Lodging	Height	Seed weight		Protein	Oil	Chlorosis	Palmitic	Stearic	Palmitic + Stearic	Oleic	Linoleic	Linolenic	Character
	bu/a	rank	date	score	inches	mg/sd	sds/lb	%	%	score	%	%	%	%	%	%	
IA3023	66.5		10/5	1.9	36	156	2920	32.4	19.8	3.3	10.2	4.1	14.3	24.7	54.1	6.9	Commodity check
†IA2102	66.5	2	9/27	2.6	34	161	2820	34.7	19.3	2.6	10.6	4.5	15.1	22.2	54.3	8.4	Commodity, yellow hilum
#A07-626002	68.3	1	10/1	2.0	34	148	3060	33.9	19.0	3.9	10.0	3.9	14.0	23.4	54.8	7.8	Commodity, yellow hilum
IA4004	59.5	3	10/5	3.1	37	163	2790	34.8	18.2	3.0	10.7	4.2	14.9	23.6	53.9	7.6	Commodity, yellow hilum
IA3048	61.6		10/2	2.3	35	139	3270	34.1	18.8	3.5	10.2	3.7	13.9	24.3	54.3	7.5	SCN resistant, yellow hilum
IA3042	60.6	8	9/25	1.6	31	150	3020	35.2	18.9	4.0	10.9	5.0	15.9	24.5	58.2	1.4	1% linolenic
IA2097	59.4	10	9/25	1.8	35	167	2710	34.6	18.9	3.4	10.0	4.6	14.7	25.0	59.1	1.2	1% linolenic
IA2101	64.0	4	9/28	1.8	34	160	2840	34.3	18.6	3.1	10.1	4.5	14.6	26.2	57.8	1.3	1% linolenic
#A08-252040	57.9	11	9/29	2.7	35	166	2730	34.3	19.3	4.1	11.1	4.5	15.5	23.6	59.6	1.3	1% linolenic, SCN resistant
IA3050	65.8	2	10/1	1.8	32	150	3030	35.3	18.6	3.1	10.6	4.6	15.2	28.1	55.4	1.3	1% linolenic
IA3024	64.7	3	10/1	1.8	35	151	2990	33.0	19.4	2.9	10.6	4.4	14.9	27.2	56.6	1.2	1% linolenic
IA3044	61.4	7	10/3	1.7	34	169	2680	34.2	19.2	3.1	9.9	4.7	14.6	24.9	59.3	1.3	1% linolenic
IA3041	60.0	9	10/4	1.8	37	144	3160	34.5	18.1	3.6	11.1	4.4	15.5	24.0	59.2	1.3	1% linolenic
IA3043	62.5	5	10/5	2.1	40	143	3170	34.6	18.7	3.1	10.1	4.7	14.7	23.2	60.7	1.3	1% linolenic
#A08-351023	62.0	6	10/7	1.7	34	157	2890	34.3	18.6	3.5	9.8	4.5	14.3	24.3	60.1	1.3	1% linolenic
IA4005	68.3	1	10/8	1.6	34	161	2830	33.6	18.8	2.8	10.1	4.8	14.9	23.7	60.1	1.2	1% linolenic
IA2099	66.5	1	9/27	1.8	31	166	2730	34.2	18.7	3.3	3.9	3.3	7.2	26.4	58.1	8.3	Low saturates
IA2100	62.7	2	9/29	2.0	33	145	3120	33.8	19.2	2.9	3.6	3.2	6.8	24.6	60.7	7.9	Low saturates
IA3026	57.1	4	9/30	2.5	40	130	3480	33.1	18.6	3.4	3.9	3.2	7.0	25.7	59.4	7.9	Low saturates
IA3049	61.1	3	10/1	2.0	34	164	2760	34.7	18.9	3.9	3.6	3.5	7.1	29.5	56.0	7.3	Low saturates
IA2040	55.1	3	9/19	1.6	30	248	1830	37.2	18.7	3.6							Large seed
***A08-255025**	55.4	2	9/23	2.0	32	257	1760	36.3	19.1	2.5							Large seed
***A08-358002**	57.3	1	10/4	3.0	38	242	1880	34.3	19.3	4.0							Large seed
IA2074	56.4	7	9/20	1.9	30	210	2160	38.4	18.0	3.1							Large seed & high protein
†IA3051	61.2	4	9/23	1.7	34	201	2260	38.3	17.8	3.1							Large seed & high protein
IA3047	60.1	5	9/23	2.1	34	206	2200	37.7	18.1	3.0							Large seed & high protein
IA3046	56.6	6	9/25	2.0	32	199	2280	37.9	18.0	2.7							Large seed & high protein
IA3027	62.3	2	9/26	2.1	32	205	2220	37.8	17.6	2.5							Large seed & high protein
IA3027RA1	63.2	1	9/29	1.8	33	208	2180	37.6	17.6	2.5							Large seed & high protein
IA3045	61.7	3	9/30	2.2	36	207	2190	37.8	17.7	2.4							Large seed & high protein
IA3022	52.7	8	10/3	2.5	38	204	2230	38.5	17.3	2.8							Large seed & high protein
IA3027LF	61.2		9/28	2.0	32	205	2210	37.1	18.1	2.8							Lipoxygenase free

†New variety released in November 2011. Foundation seed will be produced in 2012 by the Committee for Agricultural Development. Contact Lynn Henn. Phone: 515-292-3497; E-mail: lhenn@iastate.edu

#Foundation seed produced in 2011 by the Committee for Agricultural Development is available to interested growers for planting in 2012.

***Available for foundation seed production in 2012 by the Committee for Agricultural Development.**

Yield: Bushels/acre at 13% moisture
Maturity: Month/Day
Lodging: 1=Erect, 5= Prostrate

Protein and oil: 13%-moisture basis
Iron-deficiency chlorosis score: 1=No chlorosis, 5=Severe chlorosis

For information about the test, contact Walter Fehr, Department of Agronomy, Iowa State University, Ames, IA 50011.
Phone: 515-294-6865; E-mail: *wfehr@iastate.edu*

For information on licensing soybean varieties developed by Iowa State University, contact Julie Minot, Iowa State University Research Foundation, Inc., 310 Lab of Mechanics, Iowa State University, Ames, IA 50011-2131.
Phone: 515-294-9442; Fax: 515-294-0778; E-mail: *jjgus@iastate.edu* Website: *http://www.public.iastate.edu/~isurf/*

The soybean varieties developed by Iowa State University were made possible through the financial support of the Iowa Soybean Association and the United Soybean Board.

Corn

Parent Seed

This section lists parent seed, genetic stocks, and breeding populations of maize which are available to seedsmen, plant breeders, and others.

The seed is offered by the Committee for Agricultural Development (the Iowa Foundation Seed Stocks Organization) often referred to by the letters CAD.

The purpose of CAD is to make available seed of new crop varieties beneficial to Iowa agriculture as they are developed and released by Iowa State University. The maintenance of pure seed of these varieties, as they are used by farmers, is a second function of CAD. Also, seed of genetic stocks and breeding populations is distributed as it becomes available from Iowa State University.

Shipping Instructions

When ordering seed, please give shipping instructions. If you are planning to call for the seed, please so indicate. If you are ordering field corn inbreds to be shipped, please add the designated amount for postage.

Export Orders

Any seed to be sent outside the US must meet the following conditions:

1) Intention to ship seed outside the US must be disclosed to ISURF and CAD.
2) A signed license agreement must be fully executed with ISURF.
3) A clearly legible import permit for the receiving country must be received by CAD. If the import permit is not in English, the direct English translation must be attached.
4) All costs must be paid in full prior to shipment. Those costs may include but are not limited to:
   a) Seed cost.
   b) Shipping and handling.
   c) Laboratory test charges to meet import requirements. (Cost varies by test.)
   d) Cost of seed used for tests. (Typically 400 k or more is needed for each test.)
   e) Phytosanitary certificate cost.

Due to the involved nature of readying seed for overseas shipment, additional time must be allowed when ordering.

EXPORT ORDERS WILL BE ACCEPTED ONLY WHEN FULL PAYMENT AND ALL CONDITIONS HAVE BEEN MET. Remittance should be made to the Committee for Agricultural Development and mailed to:

4611 Mortensen Road, Suite 101 Ames, IA 50014-6228

Billing Information

For seed not paid for prior to or on the date of shipment or pickup from our warehouse:

ALL ACCOUNTS WILL BE DUE AND PAYABLE ON THE FIRST OF THE MONTH FOLLOWING THE MONTH OF THE DATE OF BILLING. AN INTEREST RATE OF 1.5% (EQUAL TO 18% ANNUALLY) OR $25.00 MINIMUM (WHICHEVER IS THE LARGER AMOUNT) WILL BE ADDED TO THE AMOUNT DUE ON THE FIRST DAY OF THE MONTH FOLLOWING THE DUE DATE.

Questions?

If you have any questions please contact Lynn Henn, CAD production manager, by phone (515-291-0507), fax (515-337-1032), or email (lhenn@iastate.edu).

Dent Corn Inbreds

The inbred lines of field corn listed below were produced in isolated fields. Although the fields were well isolated and carefully rogued, 100 percent freedom from contamination cannot be guaranteed. It will be necessary for the grower to do a limited amount of roguing and sorting. Seed of these inbred lines has not been treated with a fungicide.

LINES AVAILABLE

Hand pollinated breeder seed of the following inbreds is available postage paid.

B102	B103	B104	B105	B106	B107	B108
B109	B110	B111	B112	B113	B114	B115
B116	B117	B118	B119	B120	B121	B122
B123	B124	B125				

B102

B102 was developed from a cross of B85 and H99. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B103

B103 was derived from Pool 41, which was developed by CIMMYT. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B104

B104 was developed from a strain [BS13(S)C5] of Iowa Stiff stalk Synthetic. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B105

B105 was developed from a strain [BSSS(R)C9] of Iowa Stiff Stalk Synthetic after nine cycles of reciprocal half-sib recurrent selection. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B106

B106 was developed from BS26. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B107

B107 was developed from Pool 41, which is a genetically broad-based population developed for temperate areas of the world by the CIMMYT maize breeding program. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B108

B108 was developed from Pool 41, which is a genetically broad-based population developed for temperate areas of the world by the CIMMYT maize breeding program. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B109

B109 is a recovered B73 that has exhibited improved combining ability in crosses, has similar grain moisture at harvest, and similar root and stalk strength as B73. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B110

B110 was derived by single-seed descent from BS13(S)C5, a strain of BSS that has undergone 12 cycles of recurrent selection for primarily grain yield. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B111

B111 was derived by single-seed descent from BSSS(R)C9, a strain of BSSS, that had undergone nine cycles of reciprocal half-sib recurrent selection with BSCB1(R). License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B112

B112 was derived from BSCB1(R)C11, a strain of BSCB1 that had undergone 11 cycles of reciprocal half-sib recurrent selection with BSSS(R). License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B113

B113 was derived from BS11(FR)9, a strain of BS11 that had undergone nine cycles of reciprocal full-sib recurrent selection with BS10. B113 is a vigorous line with excellent plant health with leaves that have an upright-leaf orientation with light green color. It seems to have above average tolerance to first- and second-generation European corn borer, gray leaf spot, and northern corn leaf blight. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B114

B114 was derived from the same program from which B103, B107, and B108 were developed. B114 seems to contribute to fast dry-down in crosses. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B115

B115 was developed from BS11, a source that is different from most U.S. Corn Belt germplasm. It exhibits excellent plant health, indicating a good tolerance to most fungal leaf diseases and European corn borer. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B116

B116 was developed from the cross of B97 and B99, both lines that have been released from the Iowa State University corn breeding program License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B117

B117 was developed by pedigree selection from an F2 population from the cross of B97 × B99. After testing in testcross and single-cross trials, B117 exhibited good combining ability and consistent high performance. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B118

B118 was developed by pedigree selection from an F2 population from the cross of B97 × B99. After testing in testcross and single-cross trials, License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B119

B119 was developed by pedigree selection from BS13(S)C7, which is a strain of Iowa Stiff Stalk Synthetic that has been under recurrent selection since 1939. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B120

B120 was developed by pedigree selection from BSCB1, an elite synthetic variety that has been under selection since 1949. B120 is included in the non-BSSS heterotic group and has potential use as a male pollinator or source of germplasm in pedigree selection programs. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B121

B121 was developed by pedigree selection from BS13(S)C6, which has been under continuous selection since 1939. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B122

B122 was derived from a narrow base synthetic (BSKRL2) composed of the five inbreds B90, B91, B95, B97, and B99. B122 has performed well on commercial tester inbreds from the stiff stalk heterotic pattern. License agreements with ISURF are required for this variety prior to purchase. Royalties are $3.00 per MVK planted.

B123

B123 was derived from a narrow base synthetic (BSKRL2) composed of the five inbreds B90, B91, B95, B97, and B99. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B124

B124 was derived from a narrow base synthetic (BSKRL2) composed of the five inbreds B90, B91, B95, B97, and B99. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

B125

B125 was derived from a narrow base synthetic (BSKRL2) composed of the five inbreds B90, B91, B95, B97, and B99. B125 has had outstanding resistance to root and stalk lodging and excellent dry down at harvest. When crossed with SGI890, B125 ranked 3RD overall in the test for yield and was in the bottom ⅓ driest for grain moisture. License agreements with ISURF are required for this variety prior to purchase. Royalties for commercial purposes are $3.00 per MVK planted.

Dent Corn Breeding Populations For Use As Genetic Stocks by Corn Breeders

LINES AVAILABLE

The following synthetic stocks are available at $80 for 500 kernels, postage paid. A brief description of each follows:

BSCAD-1

("P" population × LH170): "P" population was developed by intermating equally eight Pioneer hybrids. The intermated population of eight Pioneer hybrids was used as male parent in an isolation field with inbred LH170 as the female. LH170 was derived from a cross of EX139 × LH38, or Oh43 germplasm. LH170 would represent 50% of the pedigree and the male would be pollen from the "P" population. Two additional generations of intermating by hand pollination within 500-plants were completed. BSCAD-1 has light green plant color, few tillers, low ear placement, about 50% red and 50% white cobs, yellow grain, and pollinations usually are completed by mid-July. License agreements with ISURF are required for this variety prior to purchase.

BSCAD-2

("P" population × Exp 1687): "P" population was developed by intermating equally eight Pioneer hybrids. The intermated population of eight Pioneer hybrids was used as male parent in an isolation field with inbred Exp. 1687 as the female. Exp. 1687 was derived from Oh43 germplasm. Exp. 1687 would represent 50% of the pedigree and the male would be pollen from the "P" population. BSCAD-2 tends to have multiple ears, low ear placement, upright leaf orientation, some silk delay, primarily red cobs, yellow grain and pollinations usually are completed by mid-July. Two additional cycles of intermating by hand pollination within 500-plants were completed. License agreements with ISURF are required for this variety prior to purchase.

BSCAD-3

A synthetic population that was developed by intermating 20 lines that included primarily Oh43 germplasm. The selection of the 20 lines to intermate was based on their testcross performance. The bulk-entry method of intermating the 20 lines was used. The initial intermating of selected lines was done in Puerto Rico followed by intermating in an isolation field. A bulk of 1,000 ears was harvested from the isolation field, shelled, thoroughly mixed, and designated as BSCAD-3. BSCAD-3 has vigorous, attractive plants, large ears with bright yellow semi-dent seeds, good root and stalk strength, and relatively good resistance to foliar leaf diseases. License agreements with ISURF are required for this variety prior to purchase.

BSCAD-4

A synthetic population was developed by intermating 10 inbred lines, in which Oh43 germplasm was common to all lines. Selection of the 10 inbred lines was based on testcross trials with LH226 as tester conducted at three Iowa locations in 1999. The 10 selections had superior yields and acceptable root and stalk strength. Pedigrees of the 10 selected lines were six lines derived from the cross of (PA91 × LH98), two lines developed from Oh43 Syn., one line from the cross of (LH40 × VA22), and one line from the cross LH98 × VA22). Each of the 10 lines also exhibited excellent plant health and vigor as lines themselves. The bulk-entry method of intermating was completed by hand pollination in the 2000 summer nursery. Prior to shelling, the number of cross-pollinated ears were counted and balanced bulks were formed by taking 2

kernels from each ear (ca. 600 seeds). One balanced bulk was intermated in 2000-2001 Puerto Rico winter nursery by hand pollination. License agreements with ISURF are required for this variety prior to purchase.

BS11(5-S1)C5

BS11(5-S1)C5 was developed by five cycles of S_1 recurrent selection. The general procedure was to self approximately 50 S_0 plants in the winter nursery. Twenty-five random S_1 ears with adequate seed set were retained for inclusion in the yield trials. Remnant S_1 seed of the five selected lines was intermated in the winter nursery using the bulk-entry method. The resulting Syn-1 population was random mated, by chain sibbing 300 to 400 plants, to form the Syn-2 population. The Syn-2 population was used to initiate the next cycle of selection. Two years were needed to complete one cycle of selection. This procedure was repeated until the BS11(5-S1)C5 Syn-2 population was formed. Progress from selection has been evaluated through Cycle 4. The BS11(5-S1)C4 population is significantly lower yielding than BS11C0, probably because of inbreeding depression due to small effective population size. License agreements with ISURF are required for this variety prior to purchase.

BS11(10-S1)C5

BS11(10-S1)C5 was developed by five cycles of S_1 recurrent selection by using a procedure similar to that used to develop BS11(5-S1)C5. 50 lines were evaluated from each cycle and the best 10 selected lines were intermated to form the next cycle population. The BS11(10-S1)C4 population has been significantly improved, in comparison with BS11C0, for all agronomic traits. The important improvements were increased grain yield, lower grain moisture at harvest, increased resistance to stalk lodging, and earlier silk emergence. License agreements with ISURF are required for this variety prior to purchase.

BS11(S1)C5

BS11(S1)C5 was developed by five cycles of S_1 recurrent selection by using a procedure similar to that used in BS11(5-S1)C5. The major difference was that 100 progenies were evaluated and the best 20 selected lines were intermated to form the next cycle population. The BS11(S1)C5 population is agronomically one of the best populations of the group. Grain yield of BS11(S1)C5 is similar to BS11(10-S1)C4 and is slightly wetter at harvest, but has significantly greater resistance to root and stalk lodging, lower plant and ear heights, and has earlier silk emergence. License agreements with ISURF are required for this variety prior to purchase.

BS11(30-S1)C5

BS11(30-S1)C5 was developed by five cycles S_1 recurrent selection using a procedure similar to that used for BS11(5-S1)C5. 150 progenies were evaluated and the best 30 selected lines were intermated to form the next cycle population. The BS11(30-S1)C4 population is similar to BS11(10-S1)C4 for grain yield and other agronomic traits, except that it has slightly earlier silk emergence. License agreements with ISURF are required for this variety prior to purchase.

BS11(S2)C5

BS11(S2)C5 was developed by five cycles of S_2 recurrent selection. The general procedure was to self 200 to 300 S_0 plants in the winter nursery. The following summer the S_1 lines were grown ear-to-row in the breeding nursery. All rows were inoculated at the 8- to 10-leaf stage with European corn borer larvae [Ostrinia nubilais (Hübner)] and rated prior to anthesis for resistance to whorl-leaf feeding. Generally, 30 to 50 percent of the lines were discarded prior to anthesis on the basis of resistance to whorl-leaf feeding and other agronomic traits such as plant and ear height, disease resistance, etc. Three to five plants were self-pollinated in the remaining lines. At harvest, seed from an ear of a single plant was kept for inclusion in yield trials. Criteria for choosing among pollinated plants within a row included seed set, ear rots, and lodging. Remnant S_2 seed of the 20 selected lines was intermated using the bulk-entry method. The resulting Syn-1 population was random mated, by chain sibbing 300 to 400 plants, to form the Syn-2 population. The next cycle of selection was initiated by using the Syn-2 population. Three years were needed to complete one cycle of selection. This procedure was repeated until the BS11(S2)C5 Syn-2 population was formed. The BS11(S2)C4 population is the highest yielding population of the group. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS11(MER)C5

BS11(MER)C5 was developed by five cycles of modified ear-to-row selection. The procedure was similar to the one suggested by Compton and Comstock in that there was selection on both the male and female gametes and two years were needed to complete one cycle of selection. Progenies were developed for the first cycle of selection by harvesting ears from a population allowed to open-pollinate in isolation. One-hundred ears were harvested and planted in yield trials the following year. The 20 selected lines were intermated by planting remnant half-sib seed ear-to-row in isolation as females and planting a bulk of the 20 selected lines as the male. Five ears, selected on the basis of grain yield and other agronomic traits, were harvested from each of the 20 female rows. The one hundred ears were planted in yield trials the following year as the evaluation phase of the next cycle of selection. The Syn-1 population was formed by harvesting an equal number of ears (10 to 15) from each female and bulking equal quantities of seed from each ear. The resulting Syn-1 population was random mated, by chain sibbing 300 to 400 plants, to form the Syn-2 population. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS11(HI)C5

BS11(HI)C5 was developed by five cycles of half-sib selection using the inbred tester B79. The general procedure was to self 200 to 300 S_0 plants in the winter nursery. The resulting S_1 lines were planted ear-to-row in the summer breeding nursery. The lines were inoculated with European corn borer larvae and evaluated for resistance to whorl-leaf feeding prior to anthesis. Approximately 30 to 50 percent of the lines were discarded prior to anthesis. Two plants in the remaining lines were selfed and crossed to four plants of B79. At harvest, only one selfed ear and the corresponding testcross seed was kept for evaluation. Remnant S_1 seed of the 20 selected lines was intermated using the bulk-entry method. The resulting Syn-1 population was random mated, by chain sibbing 300 to 400 plants, to form the Syn-2 population. The next cycle of selection was initiated by using the Syn-2 population. Three years were needed to complete one cycle of selection. This procedure was repeated until the BS11(HI)C5 Syn-2 population was formed. Grain yield of BS11(HI)C4 was not significantly different from BS11C0, improvements were made for other agronomic traits. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS11(FS)C5

BS11(FS)C5 was developed by five cycles of intrapopulation full-sib selection. For the first cycle of selection, full-sib families were developed in the winter nursery. The following summer, 100 full-sib families were evaluated and the best 20 families were selected. Remnant seed of the 20 selected full-sib families was self-pollinated in the winter nursery to produce S_1's of the full-sib families. The following summer, the S_1 full-sib families were intermated using the bulk-entry method. Simultaneously, full-sib families were developed for evaluation for the next cycle of selection by making up five sets of reciprocal full-sibs per pair in the bulk-entry intermating. Thus, one cycle of selection was completed in two years. BS11(FS)C5 was not significantly higher yielding than BS11C0. BS11(FS)C5, however, was significantly lower than BS11C0 for grain moisture at harvest, had increased resistance to root and stalk lodging, had lower plant and ear heights, and was earlier to silk. License agreements with ISURF are required for this variety prior to purchase.

The following synthetic stocks are available at $50 for 500 k, postage paid. A brief description of each follows:

BS9(CB)C5

This synthetic was developed by recombining the following 10 inbred lines: B49, B50, B52, B54, B55, B57, B68, C.I.31A, Mo17, and SD10. Only one of these lines, B68, has any relationship to inbred lines derived from Iowa Stiff Stalk Synthetic. Recurrent selection, based upon S_1 line evaluation was used for 5 cycles to improve this synthetic for resistance to both the first and second generations of the European corn borer. In all cycles, evaluations of the S_1 lines were made in separate experiments by using artificial infestations of the first- and second-generations of the corn borer. The improved synthetic, BS9(CB)C5, is highly resistant to first-generation corn borer and resistant to second-generation corn borer. License agreements with ISURF are required for this variety prior to purchase.

BS10(FR)C13

A synthetic that was developed by 13 cycles of reciprocal full-sib selection for yield from BSTE (Iowa 2-ear Synthetic #1) with PHPRC, also a 2-ear synthetic, as the tester. Eighteen S_5 lines of the superior yielding $S_4 \times S_4$ hybrids and 6 additional lines that had good stalk quality and resistance to leaf feeding by the European corn borer, Ostrinia nubilalis (Hubner), were intermated to form the Cl population. The C2 to C10 populations were developed by intermating 20 S_1 lines, which were the parents of the 20 superior yielding full-sib progenies originating from the previously selected populations. BS10(FR)C13 is superior to BSTE in yield, prolificacy, and stalk quality. License agreements with ISURF are required for this variety prior to purchase.

BS12(HI)C8

An improved population of an open-pollinated variety known as Alph. Alph is an extremely variable, long-eared variety from southern Iowa, and does not resemble any of the open-pollinated varieties in our collection. Recurrent selection for specific combining ability with inbred B14 as the tester has been used for 8 cycles to improve Alph. The hybrid yield performance of BS12(HI)C8 × B14 is comparable to commercial single-crosses. Also, BS12(HI)C8 adds valuable genetic diversity to the maize germplasm pool of the North Central Corn Belt. License agreements with ISURF are required for this variety prior to purchase.

BS13(S)C7

This improved breeding population was developed from Iowa Stiff Stalk Synthetic (BSSS) by 14 cycles of recurrent selection for increased yield. Seven cycles of recurrent selection for general combining ability for yield with Ia13 double cross [(L317 × BL349) × (BL345 × MC401)] as a tester in BSSS(HT) were followed by a cycle of full-sib selection for corn borer resistance, cold tolerance and prolificacy. This improved breeding population was redesignated BS13(S) and 4 cycles of S_2 selection and 2 cycles of S_1 selection have been completed. BS13(S)C5 combines well with BS12(HI)C8, BS18, BSCBI(R)C12, and BSSS(R)C12. License agreements with ISURF are required for this variety prior to purchase.

BS16(CB)C4

Four cycles of recurrent selection based on evaluations of S_1 lines in replicated experiments were used to improve BS16(S2)C2 for resistance to first- and second-generations of the European corn borer. BS16 was developed by 6 cycles of mass selection for adaptiveness in 'Eto Composite', and BS16(S2)C2 was obtained by 2 cycles of recurrent selection for yield, based on S_2 line evaluations in replicated experiments. In successive cycles of recurrent selection for resistance to corn borer, 226, 225, 295, and 200 S_1 lines were evaluated and recombined 22, 22, 30, and 30 lines to give the successive improved populations. In the final cycle of selection, the average rating of all S_1 lines for first-generation larval feeding was 2.8 (1.0 = highly resistant, 9.0 = highly susceptible) and the range was 2.0 to 8.1. The resistant and susceptible checks rated 2.0 and 7.3, respectively. For larval feeding by the second-generation, the average rating for all lines was 2.9, and the range was 2.0 to 7.3. The resistant check rated 2.0, and the susceptible check rated 9.0. The 30 S_1 lines selected for recombination rated 2.0 for first-generation and 2.4 for second-generation. Consequently, BS16(CB)C4 is expected to have a high level of resistance to the European corn borer for the whole life of the plant. This population is not expected to be a good source for new commercial inbred lines because, with self-pollination, the inbred progenies show too much inbreeding depression and susceptibility to root lodging. However, because the original source, ETO Composite, has a Latin American origin, it is expected that resistance to European corn borer will be conditioned by some different genes than those that condition the resistance in BS17(CB)C4. Therefore, it can be used to obtain lines that have different resistance genes than are present in U.S. Corn Belt germplasm. License agreements with ISURF are required for this variety prior to purchase.

BS17(CB)C4

Four cycles of recurrent selection based on evaluations of S_1 lines in replicated experiments were used to improve the original BS17 for resistance to the first- and second-generations of European corn borer. BS17 is an Iowa Stiff Stalk Synthetic population (BSSS) that was developed by composite crossing of 6 versions of BSSS, each of which has been improved for one or more agronomic traits (yield, resistance to first-generation corn borer, resistance to stalk rots, and tolerance to corn rootworms). Artificial infestations by first- and second-generation corn borer in separate experiments were used to evaluate the S_1 lines for resistance to feeding by the corn borer larvae. Numbers of lines evaluated in the successive cycles were 500, 300, 300, and 280. 30 selected lines were recombined in each cycle to give the improved populations. A selection index comprised of resistance to each generation and days to anthesis was used to select the lines; grain yield of the S_1 lines was an added trait to the selection index in the fourth cycle. In the final cycle of selection, the average rating of all S_1 lines for first-generation feeding was 2.0 (1.0 = highly resistant, 9.0 = highly susceptible), whereas a susceptible check rated 6.2. Also, the same S_1 lines had an average rating of 3.3 (range 2.0 to 6.1) for second-generation feeding. The resistant check, inbred B52, rated 2.0. The average second-generation rating for 30 selected lines was 2.3; consequently, BS17(CB)C4 is expected to have a high level of resistance to the European corn borer for the whole life of the plant and should be an excellent breeding population. The selected S_1 lines in the successive cycles have been continued in the inbred line development program and several have shown good hybrid performance. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS18

This population was developed by intermating BSK(S)C7 and BSK(HI)C7, which are two subpopulations of BSK. BSK is a strain of the open-pollinated variety “Krug Yellow Dent” that was developed at the Nebraska Agriculture Experiment Station. S_1 and half-sib recurrent selection were initiated in BSK in 1953. After 7 cycles of S_1 [BSK(S)C7] and half-sib [BSK(HI)C7] recurrent selection, BS18 was developed by intermating 375 plants of BSK(S)C7 and BSK(HI)C7. After the initial crosses, random matings were made by use of controlled hand pollinations in 500 to 1,000 plants for 3 generations. BS18 has good performance as a variety and good combining ability with improved strains of Iowa Stiff Stalk Synthetic. BS18 should be a useful source for the development of new lines in applied breeding programs. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS19(S)C2

The corn breeding population BS19(S)C2 was developed from a synthetic that has been designated as Iowa Early Rootworm Synthetic in experimental studies. The original synthetic was developed by combining the following 12 inbred lines: W153R, A239, A251, A265, A297, A417, A556, A632, Ms197, Oh43, R168, and SDIO. A large number of inbred lines were evaluated for corn rootworm tolerance and root traits. These 12 inbreds were selected as parent lines for an early Iowa Synthetic to be used for further studies in resistance or tolerance to corn rootworms. Recurrent selection based on the evaluation of S_1 lines in replicated experiments was used for 2 cycles, resulting in the C2 population. Traits evaluated were root damage from larval feeding, root lodging, root size, and secondary root development. This C2 population should be an excellent source from which breeders can extract early inbred lines that have good tolerance to corn rootworms. The maturity classification is approximately AES500. License agreements with ISURF <u>are required</u> for this variety prior to purchase.

BS20(S)C2

Population BS20(S)C2 was developed from a maize synthetic that has been designated as Iowa Late Rootworm Synthetic in experimental studies. The following 12 inbred lines were combined to develop this synthetic: B14A, B53, B59, B64, B67, B69, B73, N6, N28, R101, HD2286 (BSSS sel.), and 38-11. Following an evaluation of a large number of inbred lines for corn rootworm tolerance and root traits, these 12 inbreds were selected as parent lines for a late Iowa synthetic to be used in further studies in resistance or tolerance to corn rootworms. Recurrent selection based on the evaluation of S_1 lines in replicated experiments was used for 2 cycles, resulting in the C2 population. This synthetic has above-average general combining ability for yield and excellent resistance to root and stalk lodging. The maturity classification is approximately AES800. License agreements with ISURF are required for this variety prior to purchase.

BS21(R)C7

BS21(R)C7 is a genetically broad-based synthetic cultivar developed after six cycles of reciprocal recurrent selection primarily for improved grain yield and root and stalk strength. It is an improved source of corn germplasm for use in areas of higher latitudes or in areas desiring earlier maturity. License agreements with ISURF are required for this variety prior to purchase.

BS22(R)C7

BS22(R)C7 is a genetically broad-based synthetic cultivar developed after six cycles of reciprocal recurrent selection primarily for improved grain yield and root and stalk strength. It is an improved source of corn germplasm for use in areas of higher latitudes or in areas desiring earlier maturity. License agreements with ISURF are required for this variety prior to purchase.

BS23

A composite of annual teosinte and corn germplasm was used as a source of 2-eared inbred lines. The proportion of teosinte germplasm and the maize stocks are not known. Eight inbred lines with good agronomic performance in hybrid combinations were selected and recombined to give a synthetic designated as “Teozea.” Teozea was further sib-mated with selection for 2-eared plants for 2 generations. An additional generation of random mating with no selection was used to obtain the seed supply for distribution as BS23. Evaluations have shown that this synthetic silks 3 to 4 days earlier than Iowa Stiff Stalk Synthetic (BSSSCO), has a high frequency of second ears when the plant density is 16,000 plants/acre or less, has a strong “stay-green” characteristic in Iowa, and yields well in crosses with BSSSCO. License agreements with ISURF are required for this variety prior to purchase.

BS26

BS26 was developed by intermating 50 selected S_1 lines from “Lancaster Composite”, followed by 3 generations of random mating. Lancaster Composite was developed by intermating 15 inbred lines that included C103 germplasm with 5 populations that included Lancaster Sure Crop germplasm. After 5 generations of intermating, S_1 lines were developed and evaluated for pest resistance, maturity, and agronomic traits. Based on S_1 performance, 400 were advanced to S_2 generation and evaluated per se and in testcrosses with B73 × B84. Index selection was used to determine the 50 S_1 lines intermated to form BS26. This improved population includes germplasm that should be useful in applied breeding programs. License agreements with ISURF are required for this variety prior to purchase.

BS27

BS27 is an adapted population of Anitgua Composite obtained originally from the International Maize and Wheat Improvement Center(CIMMYT) located near Mexico City. Antigua is a tropical variety that was adapted to temperate conditions by mass selection for earlier flowering. Mass selection was initiated in 1977 and after 6 cycles of selection Antigua Composite was considered to have maturity appropriate for U.S. Corn Belt environments. BS27 has a vigorous plant type, intermediate height, and ears with flinty kernels that are light yellow to light orange. BS27 has good combining ability with Corn Belt dent cultivars. BS27 includes germplasm that exhibits good pest resistance in tropical areas and includes germplasm that is different from that currently included in U.S. Corn Belt breeding programs. Maturity classification is AES800. License agreements with ISURF are required for this variety prior to purchase.

BS28

BS28 is an adapted population of Tuxpeno germplasm. Samples of five strains of Tuxpeno were obtained from CIMMYT, five samples were bulked, planted in isolation, and allowed to intermate to form Tuxpeno Composite. Mass selection was initiated in Tuxpeno Composite for earlier flowering in 1987. After six cycles of selection, the selected strain of Tuxpeno Composite was designated as BS28. BS28 includes germplasm that is considered one of the more important tropical races because of its good combining ability. BS28 could be used in breeding programs that want to include elite tropical germplasm adapted to temperate environments. Maturity classification is AES700-800. License agreements with ISURF are required for this variety prior to purchase.

BS29

BS29 is an adapted strain of Suwan-1, which was developed by Kasetsart University at Farm Suwan near Bangkok, Thailand. A sample of Suwan-1 [PI 439741-Suwan #1(S)C6] was obtained in 1986. Mass selection for earlier flowering was initiated in 1987. After six cycles of mass selection for adaptation, the population was designated as BS29. BS29 sheds pollen 9 days later than B73 × Mo17 and has 5.2% greater grain moisture at harvest. BS29 has excellent general combining ability with other adapted tropical varieties (BS16, BS27, and BS28). BS29 has good specific combining ability with BS10 and BSSS. BS29 has excellent grain quality; ears have flinty dark yellow kernels. BS29 is a strain of Suwan-1 adapted to temperate environments that should have potential in temperate breeding programs. Maturity classification is late AES800. License agreements with ISURF are required for this variety prior to purchase.

BS30

BS30 is a source of Iodent germplasm. Nineteen inbred lines that originated from the initial sampling of Iodent by M. T. Jenkins in 1922 were intermated to produce BS30. BS30 has a yellow, dent kernels on large girthed ears. Plant phenotypes are typically robust with large tassels, but plants generally have poor root and stalk strength. Maturity classification of BS30 is AES800. License agreements with ISURF are required for this variety prior to purchase.

BS35

BS35 is a synthetic cultivar of corn developed by intermating 19 selections that included 75% temperate and 25% sub-tropical germplasm. Selections were based on evaluations of 390 backcrosses per se and testcrosses of 80 selected backcrosses; LH185 was the tester. BS35 would be included in the Iowa Stiff Stalk Synthetic heterotic group. License agreements with ISURF are required for this variety prior to purchase.

BS36

BS36 is a synthetic cultivar of corn developed by intermating 13 selections that included 75% temperate and 25% sub-tropical germplasm. Selections were based on evaluations of 294 backcrosses per se and testcrosses of 62 selected backcrosses tested at five Iowa locations; LH198 was the tester. BS36 would be included in the non-Iowa Stiff Stalk Synthetic heterotic group. License agreements with ISURF are required for this variety prior to purchase.

BS37

BS37 is a synthetic cultivar of corn developed by intermating 20 selections that included 75% temperate and 25% sub-tropical germplasm. Selections were based on evaluations of 486 backcrosses per se and testcrosses of 100 selected backcrosses tested at seven Iowa locations; LH185 was the tester. BS37 would be included in the Iowa Stiff Stalk Synthetic heterotic group. License agreements with ISURF are required for this variety prior to purchase.

BS38

BS38 is a synthetic cultivar of corn developed by intermating 16 selections that included 75% temperate and 25% sub-tropical germplasm. Selections were based on evaluations of 405 backcrosses per se and testcrosses of 81 selected backcrosses tested at seven Iowa locations; BS38 would be included in the non-Iowa Stiff Stalk Synthetic heterotic group. License agreements with ISURF are required for this variety prior to purchase.

BS39

BS39 is a strain of tropical germplasm adapted to temperate environments developed from a composite of five assessions of Tuscon, originally introduced from Cuba**.** License agreements with ISURF are required for this variety prior to purchase.

BSAA(SRCB)C4

Iowa Synthetic AA, designated BSAA, was developed by recombining 58 North Central Corn Belt lines. Recurrent selection based upon S_1 line evaluation was used for 4 cycles to improve this synthetic for resistance to first-generation European corn borer and resistance to stalk rot. In all cycles, evaluations of S_1 lines were made in separate experiments under artificial infestations of the corn borer and artificial inoculations of Diplodia stalk rot. Whereas, the original BSAA was intermediate in resistance to both corn borer and stalk rot, BSAA(SRCB)C4 is resistant to both. Also, BSAA(SRCB)C4 is slightly earlier than BSAA for anthesis. License agreements with ISURF are required for this variety prior to purchase.

BSBB(SRCB)C4

Iowa Synthetic BB, designated BSBB, was developed by recombining 44 North Central Corn Belt inbred lines. At least 12 of these lines have germplasm from Iowa Stiff Stalk Synthetic. Recurrent selection based on S_1-line evaluation was used for 4 cycles to improve this synthetic for resistance to first-generation European corn borer and resistance to stalk rot. In all cycles, evaluations of S_1 lines were made in separate experiments by using artificial infestations of the corn borer and artificial inoculations of Diplodia stalk rot. It is slightly later than BSBB for anthesis. License agreements with ISURF are required for this variety prior to purchase.

BSCB1(R)C12

This improved breeding population was developed from 9 cycles of half-sib reciprocal recurrent selection, followed by 3 cycles of full-sib reciprocal recurrent selection. The tester population was BSSS(R)C11. BSCB1 was synthesized from 12 inbred lines: A340, CC5, Hy, I205, K230, L317, OhO7, Oh33, Oh4OB, Oh5lA, P8, and R4. Screening among and within S_1 lines for first-generation European corn borer, Ostrinia nubilalis (Hubner), resistance and stalk-rot resistance was done in selecting elite material for the testcross trials. License agreements with ISURF are required for this variety prior to purchase.

BSL(S)C7

This synthetic was developed from BSL(S)C4 with additional improvement for stalk quality. BSL(S)C4 was developed from the open-pollinated variety, Lancaster Surecrop, after 4 cycles of recurrent selection for stalk rot resistance. Three additional cycles of recurrent selection for resistance to mechanical breakage were used to obtain further improvement for stalk quality. BSL(S)C7 has better stalk-rot resistance than does BSL(S)C4, and it is much better than BSL(S)C4 for resistance to field stalk lodging. License agreements with ISURF are required for this variety prior to purchase.

BSSS(R)C12

This improved breeding population was developed from 9 cycles of half-sib reciprocal recurrent selection followed by 3 cycles of full-sib reciprocal recurrent selection with BSSS(R)C11 as tester. The tester population was BSCB1(R)C11. Screening among and within S_1 lines for European corn borer, Ostrinia nubilalis (Hubner), resistance and stalk-rot resistance was done in selecting elite material for the testcross yield trials. License agreements with ISURF are required for this variety prior to purchase.

BSTL(S)C5

Developed to provide a population containing some exotic germplasm. One-fourth of the germplasm of this synthetic was derived from the Mexican race, Tuxpeno; and the other ¾ was derived from the U.S. variety, Lancaster Surecrop. The population is an improved version of (Tuxpeno × Lancaster$_2$) Synthetic. Five cycles of S_2 recurrent selection for agronomic traits and yield have been completed; the population has improved grain yield and root and stalk quality relative to the original population. License agreements with ISURF are required for this variety prior to purchase.

Order Forms

ORDER BLANK FOR DENT CORN INBREDS

To: Committee for Agricultural Development
4611 Mortensen Road, Suite 101
Ames, IA 50014-6228

The following dent corn lines are available at the listed prices for 100 k packets used for research and testing purposes. Larger quantities may be available of variety B102 thru B125 at a cost of $6.00 per MVK if you have executed a new commercialization or breeding agreement. Please call Julie Minot at 515-294-9442 if you need clarification on inbred seed costs.

DENT CORN INBRED LINE	UNIT COST (100k)	TOTAL
B102	$ 80.00	
B105	$ 80.00	
B108	$ 80.00	
B111	$ 80.00	
B114	$ 80.00	
B117	$ 80.00	
B120	$ 80.00	
B123	$ 80.00	

DENT CORN INBRED LINE	UNIT COST (100k)	TOTAL
B103	$ 80.00	
B106	$ 80.00	
B109	$ 80.00	
B112	$ 80.00	
B115	$ 80.00	
B118	$ 80.00	
B121	$ 80.00	
B124	$ 80.00	

DENT CORN INBRED LINE	UNIT COST (100k)	TOTAL
B104	$ 80.00	
B107	$ 80.00	
B110	$ 80.00	
B113	$ 80.00	
B116	$ 80.00	
B119	$ 80.00	
B122	$ 80.00	
B125	$ 80.00	

Please find attached my check for $_____ payable to the COMMITTEE FOR AGRICULTURAL DEVELOPMENT. Send seed to:

Name_____
Address_____
City_____State_____Zip_____

Shipping Address if different from above.
_____
_____
_____

I will pick up my seed OR Please ship my seed
(Circle One)

SYNTHETIC SEED STOCKS

SYNTHETIC SEED STOCKS	QUANTITY (500 k Packets)	UNIT COST	TOTAL
1. BSCAD-1		$ 80.00	
2. BSCAD-2		$ 80.00	
3. BSCAD-3		$ 80.00	
4. BSCAD-4		$ 80.00	
5. BS11(5-S1)C5		$ 80.00	
6. BS11(10-S1)C5		$ 80.00	
7. BS11(S1)C5		$ 80.00	
8. BS11(30-S1)C5		$ 80.00	
9. BS11(S2)C5		$ 80.00	
10. BS11(MER)C5		$ 80.00	
11. BS11(HI)C5		$ 80.00	
12. BS11(FS)C5		$ 80.00	

Please find attached my check for $_____ payable to the COMMITTEE FOR AGRICULTURAL DEVELOPMENT. Send seed to:

Name_____
Address_____
City_____State_____Zip_____

Shipping Address if different from above.
_____
_____
_____

I will pick up my seed OR Please ship my seed
(Circle One)

ORDER BLANK FOR DENT CORN GENETIC STOCKS AND SYNTHETIC SEED STOCKS – CONTINUED

The following lines are available at $50 per 500-kernel unit. Please indicate how many 500-kernel units are needed:

LINE	**QUANTITY** (500 k Packets)	**UNIT COST**	**TOTAL**	**LINE**	**QUANTITY** (500 k Packets)	**UNIT COST**	**TOTAL**
BS9(CB)C5		$50.00		BS28		$50.00	
BS10(FR)C10		$50.00		BS29		$50.00	
BS12(HI)C8		$50.00		BS30		$50.00	
BS13(S)C7		$50.00		BS35		$50.00	
BS16(CB)C4		$50.00		BS36		$50.00	
BS17(CB)C4		$50.00		BS37		$50.00	
BS18		$50.00		BS38		$50.00	
BS19(S)C2		$50.00		BS39		$50.00	
BS20(S)C2		$50.00		BSAA(SRCB)C4		$50.00	
BS21(R)C7		$50.00		BSBB(SRCB)C4		$50.00	
BS22(R)C7		$50.00		BSCB1(R)C12		$50.00	
BS23		$50.00		BSL(S)C7		$50.00	
BS26		$50.00		BSSS(R)C12		$50.00	
BS27		$50.00		BSTL(S)C5		$50.00	

Please find attached my check for $_____ payable to the COMMITTEE FOR AGRICULTURAL DEVELOPMENT. Send seed to:

Name_____
Address_____
City_____State_____Zip_____

Shipping Address if different from above.
_____
_____
_____

I will pick up my seed OR Please ship my seed
(Circle One)

Sample Agreements

SAMPLE CORN COMMERCIALIZATION AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____ 20___, by and between the IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. an Iowa non-profit corporation (hereinafter called "ISURF"), and _____ (hereinafter called "LICENSEE").

WITNESSETH:

WHEREAS, it is the mutual desire of ISURF and LICENSEE to promote the production, promotion, distribution, and sale of corn lines developed at Iowa State University:

WHEREAS, ISURF desires to grant to LICENSEE and LICENSEE desires to obtain a limited non-exclusive, non-transferable license to use one or more lines of Corn Foundation Seed Line owned by ISURF or new line developed from ISU germplasm identified in Schedule A and offered to LICENSEE:

(a) for the production of hybrid seed corn for sale and distribution

WHEREAS the parties to this agreement further believe that this agreement is in the best interests of and will further the purpose of their two organizations, and that it will benefit agriculture;

Now, therefore, in consideration of the promises and mutual covenants contained herein, the parties agree as follows:

ARTICLE I - DEFINITIONS

For the purposes of this Agreement, the following terms shall be defined as follows:

(a) "Corn Foundation Seed Line" shall mean the inbred line, identified in Schedule A which has been bred or discovered at ISU and which ISURF desires to offer to LICENSEE. For purposes of this Agreement, Corn Foundation Seed Line shall include, but not be limited to, whole corn plants, seed, pollen, and other plant parts and/or tissues, and the genetic material contained therein.

(b) "Improved or Recovered Inbred Lines" shall mean any line developed from Corn

Foundation Seed Line by selection or backcrossing.

(c) "Hybrid Seed Corn" shall mean hybrid seed corn produced from at least one Corn Foundation Seed Line as defined in 1(a) above and/or hybrid seed corn produced from at least one New Corn Line as defined in paragraph 1(d) below.

(d) "New Corn Line(s)" shall mean any Parent developed by LICENSEE and containing any Corn Foundation Seed Line or any part thereof.

(e) "New Corn Hybrid(s)" shall mean Hybrid Seed Corn containing at least one New Corn Line(s) or any part thereof.

(f) "Parent" shall mean any inbred and/or single cross line(s) which can be crossed to produce a hybrid.

(g) "Territory" shall mean the United States of America.

(h) "Term" shall mean the period specified in Section 5 of this Agreement.

(i) "MVK" shall mean 1000 viable kernels

ARTICLE II - GRANT OF LICENSE

2.1 ISURF grants LICENSEE the non-exclusive right to use and sell the Corn Foundation Seed Line under this agreement for the Term of the agreement. ISURF reserves the right to use and sell under this agreement and to distribute to third parties seed for breeding, research, and commercial purposes. Corn Foundation Seed Line provided may be used only as specifically provided in this Agreement

2.2 LICENSEE agrees to pay ISURF a fee in the amount published in the current ISURF / Committee for Agricultural Development (CAD) seed price list for each unit requested for the Corn Foundation Seed Line.

2.3 LICENSEE shall not transfer or distribute Corn Foundation Seed Line to any third party not bound by contract to LICENSEE unless the third party is also a licensee of the Corn Foundation Seed Line. LICENSEE shall not grant sublicenses of Corn Foundation Seed Line.

2.4 Seeds, plants, plant parts, seed parts, callus tissue or DNA of the Corn Foundation Seed Line will not be distributed to a third party without the written consent of ISURF.

2.5 LICENSEE may cross the Corn Foundation Seed Line for the production of Hybrid Seed Corn for sale and distribution.

2.6 Corn Foundation Seed Line may not be increased by LICENSEE except as specifically provided in Article 4 of this agreement.

2.7 LICENSEE may backcross a Corn Foundation Seed Line as the recurrent parent for research purposes and for development of Improved or Recovered Inbred lines.

2.8 New Corn Lines and Improved or Recovered inbred lines may be increased by LICENSEE for research purposes and the production of Hybrid Seed for sale and distribution only as provided in Article 4 of this agreement.

2.9 LICENSEE may subject a Corn Foundation Seed Line to genetic manipulation under this Agreement only provided LICENSEE obtains written permission from ISURF prior to all such activities. The identity of any genetically modified line must carry unique identification as mutually agreed upon by ISURF and LICENSEE.

2.10 LICENSEE agrees that the Corn Foundation Seed Line is the property of ISURF. LICENSEE shall have no rights with respect thereto except as may be expressly granted hereunder. LICENSEE shall not apply for any patent or other right and shall not divulge or disclose any information, material or documents, concerning this agreement or the rights contained hereunder or make available in any way or use the aforesaid Corn Foundation Seed Line, except as expressly provided in this agreement, without the prior written consent of ISURF. ISURF will have the right to pursue legal protection of the Corn Foundation Seed Line, the rights of which will be owned by ISURF.

2.11 ISURF or its designated agents will maintain breeder seed of the Corn Foundation Seed Line.

2.12 LICENSEE agrees to submit annual reports detailing commercialization progress and to pay ISURF a royalty as determined in Article IV.

2.13 Should LICENSEE decide not to pursue commercialization of the Corn Foundation Seed Line, its entire supply of Corn Foundation Seed shall be disposed of as directed by ISURF.

ARTICLE III - DUE DILIGENCE

3.1 LICENSEE shall use its best efforts to bring the licensed Corn Foundation Seed Line to market through a thorough, vigorous and diligent program.

ARTICLE IV – ROYALTIES

4.1 LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, licensing fees in the amount of $100 for the Corn Foundation Seed Line listed on Schedule A. Licensing Fees will be due and payable upon execution of this agreement.

4.2 Corn Foundation Seed Line: LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, royalties in the amount stated on Schedule A per MVK of the Corn Foundation Seed Line planted for

commercial Hybrid Seed Corn production. Royalties will be due and payable annually on the September 1 following the previous July 1 - June 30 fiscal year during which Corn Foundation Seed Line is planted for the production of commercial Hybrid Seed Corn. For example, for Corn Foundation Seed Line planted during the period from July 1, 2011 to June 30, 2012, payment will be due September 1, 2012. Upon request by ISURF, its auditor, or its designated representative, LICENSEE shall make available sufficient records to verify the amount of Corn Foundation Seed used for planting.

4.3 New Corn Lines or Improved or Recovered Inbred Lines: Royalties on New Corn Lines or Improved or Recovered Inbred Lines shall be proportional to the theoretical average number of alleles in the Improved or Recovered Inbred lines according to the pedigree times the price listed on Schedule A for each MVK of the Improved or Recovered Line planted for commercial Hybrid Seed Corn production. For example, where B is the Foundation Seed line and Y is a line not covered under this agreement, the inbred created from the cross B x Y will be calculated as 50% x Schedule A rate. Royalties will not be collected on crosses that contain less than 50% the theoretical average number of alleles. Royalties on Improved or Recovered Inbred Lines will be due and payable annually on September 1 as specified in Article 4.1.

4.4 LICENSEE shall keep full, true and accurate books of account containing all particulars that may be necessary for the purpose of showing the amounts payable to ISURF hereunder. Said books of account shall be kept at LICENSEE's principal place of business or the principal place of business of the appropriate division of LICENSEE to which this Agreement relates. Said books and the supporting data shall be open at all reasonable times for ten (10) years following the end of the calendar year to which they pertain, to the inspection of ISURF or its agents for the purpose of verifying LICENSEE's royalty statement or compliance in other respects with this Agreement.

4.5 LICENSEE shall maintain control of all seed production grown under this Agreement.

4.6 LICENSEE may market and distribute New Corn Hybrids, or Hybrid Seed Corn produced in accordance with this Agreement under their own brand name provided, however, that Corn Foundation Seed Line sold or distributed to other Licensees is identified by the Corn Foundation Seed Line name.

ARTICLE V - TERMINATION

5.1 LICENSEE shall have the right to cancel or terminate this agreement at any time after six months written notice to ISURF, provided, however, that such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising upon such termination.

5.2 If LICENSEE should fail to exercise the diligence required in Article III hereof, or to deliver to ISURF any agreement, payment, statement, report or other document required to be delivered at the time or times that the same shall be made, or shall use the licensed invention or licensed material for purposes not herein expressly authorized or if LICENSEE shall violate or fail to keep or perform any obligation, term or condition

of this agreement on its part to be kept or performed hereunder, then and in such event ISURF may give written notice of such breach or default to LICENSEE, specifying the default which is claimed and if LICENSEE should fail to repair such breach or default in sixty (60) days from receipt by it of such notice, ISURF shall have the right to cancel or terminate agreement by written notice to LICENSEE. Upon delivery of such notice of cancellation or termination to LICENSEE, this agreement shall be terminated but termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any obligation of LICENSEE arising upon termination.

5.3 It is further agreed that should LICENSEE be adjudged bankrupt, become insolvent or enter into or make a composition with or assignment to its creditors, then and in such event, this license shall automatically terminate without notice but such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising upon such termination, and all seeds of the Corn Foundation Seed Line covered under this agreement are to be disposed of as directed by ISURF.

5.4 This Agreement shall remain in effect until ten years after date of the agreement, unless sooner terminated by either party upon six months written notice of intent to terminate. In the event this agreement is terminated by either party for any reason, LICENSEE will dispose of all licensed Corn Foundation Seed Line as directed by ISURF. All provisions of this Agreement regarding sales and royalties on seed produced pursuant to this Agreement shall continue to apply for a period of ten (10) years after the effective cancellation date as if this Agreement were still in force. This Agreement may be extended in its present form, or any modified form, by written request of either party for a period of ten years.

ARTICLE VI - NON-USE OF NAMES

6.1 Neither ISURF, nor LICENSEE or any of its growers shall use the name of either party to this Agreement in any advertising or publicity relating to the Corn Foundation Seed Line without prior written permission of that party.

6.2 ISURF retains the right to disclose to the public the transfer of this technology and the existence of this license with the LICENSEE.

ARTICLE VII - INFRINGEMENT

7.1 In the event that LICENSEE shall learn of infringement of the Corn Foundation Seed Line, or wrongful use of the Corn Foundation Seed Line, LICENSEE shall notify ISURF in writing to such effect and provide ISURF with evidence thereof in LICENSEE's possession. ISURF shall use its best efforts to terminate the infringement or wrongful use without litigation. If such efforts are not successful, ISURF, in its discretion, may cause suit to be brought for infringement or other wrongful use. If requested by ISURF, LICENSEE agrees to cooperate with ISURF in any infringement or other proceeding that ISURF may institute.

ARTICLE VIII - WARRANT

8.1 ISURF does not warrant the validity or scope of any legal protection that become licensed under this agreement.

8.2 ISURF makes no warranty, expressed or implied, that the Corn Foundation Seed Line will be successful for the commercial production of corn seed.

ARTICLE IX - WARRANTIES & INDEMNIFICATION

9.1 ISURF makes no representations, warranties or conditions other than those expressed in this clause. The liability of ISURF with respect to any misdescription of or deviation from the characteristics of such Corn Foundation Seed Line with respect to any misrepresentation or breach of condition or warranty, expressed or implied, is limited to refunding the purchase price of the seed sold.

9.2 LICENSEE agrees that it will indemnify and hold harmless ISURF, its trustees, officers, employer, affiliates, from any suits, costs or charges as a result of the manufacture, use or sale by LICENSEE of the Corn Foundation Seed Line.

9.3 LICENSEE shall obtain and carry in full force and effect liability insurance which shall protect LICENSEE and ISURF in regard to events covered by 9.2 above.

ARTICLE X - WAIVER

10.1 This agreement may be modified at any time by mutual consent of both parties. Such modifications shall be in writing, signed by both parties, and made a part of this agreement.

10.2 It is agreed that no waiver by either party hereto of any breach or default of any of the covenants or requirements herein set forth shall be deemed a waiver as to any subsequent or similar breach or default.

10.3 This agreement terminates all prior arrangements written or oral and incorporates the entire agreement of the parties. It shall be modified only in writing, signed by both parties. This agreement is made in the state of Iowa and shall be governed by and construed in accordance with its laws.

10.4 Any notices or reports required to be sent to either party to this agreement shall be deemed received when sent by certified first-class mail, postage prepaid, to the attention of the party as set forth below:

To: Iowa State University Research Foundation, Inc.
310 Lab of Mechanics
Ames, Iowa 50011-2131

To: LICENSEE: _____

10 .5 If one or more of the provisions of this agreement shall be held to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective proper officers.

IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC.

By:_____ Date: _____, _____

Lisa Lorenzen, Ph.D., Executive Director

LICENSEE

By:_____ Date: _____, _____

Name and Office: _____
Address _____
Phone:_____Fax:_____Email:_____

Schedule A

LINE	**ROYALTY PER MVK PLANTED**
_____	$ 3.00
_____	
_____	
_____	
_____	

SAMPLE INBRED CORN RESEARCH AND BREEDING AGREEMENT

This AGREEMENT made by and between the Iowa State University Research Foundation, Inc. (hereinafter called ISURF), and _____ (hereinafter called COMPANY).

Whereas, COMPANY has requested a sample of the following proprietary inbred corn germplasm which is jointly owned by ISURF and USDA / ARS.

Corn Germplasm Inbred Line

ISURF agrees to supply seed of the above inbred lines and COMPANY agrees to abide by the following terms of the AGREEMENT:

1. Seed provided may be used for producing test crosses, evaluation, developing breeding populations for extraction of inbred lines, or they may be used directly in hybrids.

2. Seed may be increased but only to provide enough additional seed to make experimental hybrids for evaluation or to develop new breeding populations.

3. No seeds, plants, plant parts, seed parts, callous tissue or DNA of these inbred lines will be distributed to a third party.

4. An annual report indicating use of the above lines is required and due annually on September 1 until this agreement is terminated. A template for the report is attached.

5. Any line or population derived from this germplasm must be commercially licensed prior to release or distribution. Royalties will be collected on all commercialized lines or populations containing 50% (fifty per cent) or more licensed ISU germplasm by pedigree. Lines or populations containing less than 50% (fifty per cent) ISU germplasm will also require a commercialization agreement but will be royalty free.

6. Use of these inbred lines to produce hybrids for commercialization should not start before COMPANY requests a commercialization license from ISURF and COMPANY signs a commercialization licensing agreement.

7. LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, licensing fees in the amount of $100 per Corn Germplasm Inbred Line. Licensing Fees will be due and payable upon execution of this agreement.

COMPANY may conduct and publish results of research on this germplasm and/or genetic stocks, cultivars, hybrids and/or germplasm developed with the germplasm listed above without prior approval of ISURF. COMPANY agrees to duly acknowledge the contributions of the Iowa State University and USDA / ARS breeding programs in the provision of the germplasm in all publications and in all descriptions and release notifications of material derived from the germplasm listed above.

COMPANY agrees that ISURF and USDA / ARS are not liable for any royalty claims that may be made against the parentage of the inbred lines listed above. This agreement shall be construed according to the laws of the State of Iowa.

The germplasm is provided "As Is" without warranty of any sort, expressed or implied. The recipient agrees to bear all risk resulting from the use of the germplasm and anything derived therefrom.

In Witness whereof, the parties have executed this Agreement the day and year first written above.

IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC.

By:_____ Date: _____, _____

Lisa Lorenzen, Ph.D., Executive Director

LICENSEE

By:_____ Date: _____, _____

Name and Office: _____
Address _____
Phone:_____Fax:_____Email:_____

INBRED CROSSING QUESTIONNAIRE FOR 20__

Licensee: _____

Please complete the following report for any ISU inbreds you are using as a parent in new hybrid combinations for potential or current commercial production. We understand that some of these numbers will be estimates. Our records indicate that you have the inbreds listed. Please add any other ISU inbreds you have in your crossing program.

CORN INBRED CROSSING REPORT (Number of Hybrid Crosses)				
Inbred	**New Crosses In 2012**	**Crosses in 2012 Yield Tests**	**Crosses in 2012 Pilot Production**	**Crosses in 2012 Strip Trials**

The following explanations may help:

1. New Crosses – Estimated number of new F1 combinations being made in 20-.
2. Crosses in Yield Tests – Number of F1 crosses in 20-_ replicated yield trials.
3. Crosses in Pilot Production – Number of F1 crosses in 20- pilot production.
4. Crosses in Strip Trials – Number of F1 crosses in 20- strip or mini-strip trials.

Please fax the completed report to 515-294-6505 by September 1.

I hereby certify that the quantities herein reported are complete and accurate.

Signature: _____

Position: _____

Date: _____

SAMPLE INBRED CORN RESEARCH AND TESTING AGREEMENT

This AGREEMENT made by and between the Iowa State University Research Foundation, Inc. (hereinafter called ISURF), and _____ (hereinafter called COMPANY).

Whereas, COMPANY has requested a sample of the following proprietary inbred corn germplasm which is jointly owned by ISURF and USDA / ARS.

Corn Germplasm Inbred Line

ISURF agrees to supply seed of the above inbred lines and COMPANY agrees to abide by the following terms of the AGREEMENT:

1. Seed provided may be used for field testing, evaluation and/or test crossing only.
2. Seed may be increased but only to provide enough additional seed to make experimental hybrids for evaluation.
3. No seeds, plants, plant parts, seed parts, callous tissue or DNA of these inbred lines will be distributed to a third party.
4. Use of these inbred lines to produce hybrids for commercialization should not start before COMPANY requests a commercialization license from ISURF and COMPANY signs a commercialization licensing agreement.
5. LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, licensing fees in the amount of $100 per Corn Germplasm Inbred Line. Licensing Fees will be due and payable upon execution of this agreement.

COMPANY may conduct and publish results of research on this germplasm and/or genetic stocks, cultivars, hybrids and/or germplasm developed with the germplasm listed above without prior approval of ISURF. COMPANY agrees to duly acknowledge the contributions of the Iowa State University and USDA / ARS breeding programs in the provision of the germplasm in all publications and in all descriptions and release notifications of material derived from the germplasm listed above.

COMPANY agrees that ISURF and USDA / ARS are not liable for any royalty claims that may be made against the parentage of the inbred lines listed above. This agreement shall be construed according to the laws of the State of Iowa.

The germplasm is provided "As Is" without warranty of any sort, expressed or implied. The recipient agrees to bear all risk resulting from the use of the germplasm and anything derived therefrom.

In Witness whereof, the parties have executed this Agreement the day and year first written above.

SAMPLE CORN POPULATION RESEARCH AND DEVELOPMENT AGREEMENT

This AGREEMENT made by and between the Iowa State University Research Foundation, Inc. (hereinafter called ISURF), and _____ (hereinafter called COMPANY).

Whereas, COMPANY has requested a sample of the following proprietary maize population(s) which is owned by ISURF.

Maize Population

ISURF agrees to supply seed of the above maize population(s) and COMPANY agrees to abide by the following terms of the AGREEMENT:

1. Seed provided may be used for basic research, evaluation and/or test crossing only. Seed may be increased but only to provide enough additional seed for research and evaluation.
2. No seeds, plants, plant parts, seed parts, callous tissue or DNA of these populations will be distributed to a third party.
3. Direct use of these populations for commercialization should not start before COMPANY requests a commercialization license from ISURF and COMPANY signs a commercialization licensing agreement.

COMPANY may conduct and publish results of research on this germplasm and/or genetic stocks, cultivars, hybrids and/or germplasm developed with the germplasm listed above without prior approval of ISURF. COMPANY agrees to duly acknowledge the contributions of the Iowa State University breeding program in the provision of the germplasm in all publications and in all descriptions and release notifications of material derived from the germplasm listed above.

COMPANY agrees that ISURF is not liable for any royalty claims that may be made against the parentage of the populations listed above. This agreement shall be construed according to the laws of the State of Iowa.

The germplasm is provided "As Is" without warranty of any sort, expressed or implied. The recipient agrees to bear all risk resulting from the use of the germplasm and anything derived therefrom.

In Witness whereof, the parties have executed this Agreement the day and year first written above.

SAMPLE CORN POPULATION COMMERCIALIZATION AGREEMENT

THIS AGREEMENT is made and entered into this ___ day of ___ 20__, by and between the IOWA STATE UNIVERSITY RESEARCH FOUNDATION, INC. an Iowa non-profit corporation (hereinafter called "ISURF"), and
(hereinafter called "LICENSEE").

WITNESSETH:

WHEREAS, it is the mutual desire of ISURF and LICENSEE to promote the production, promotion, distribution, and sale of corn genetics owned by ISURF:

WHEREAS, ISURF desires to grant to LICENSEE and LICENSEE desires to obtain a limited non-exclusive, non-transferable license to use one or more Corn Seed Population(s) owned by ISURF identified in Schedule A and offered to LICENSEE:

(a) for research and the development of new corn lines, and

(b) for the production of hybrid seed corn for sale and distribution.

WHEREAS the parties to this agreement further believe that this agreement is in the best interests of and will further the purpose of their two organizations, and that it will benefit agriculture;

Now, therefore, in consideration of the promises and mutual covenants contained herein, the parties agree as follows:

ARTICLE I - DEFINITIONS

For the purposes of this Agreement, the following terms shall be defined as follows:

(a) "Corn Seed Population(s)" shall mean those corn populations, identified in Schedule A which have been developed at ISU or owned by ISURF and which ISURF desires to offer to LICENSEE. For purposes of this Agreement, Corn Seed Population(s) shall include, but not be limited to, whole corn plants, seed, pollen, and other plant parts and/or tissues, and the genetic material contained therein.

(b) "Improved or Recovered Inbred Lines" shall mean any line developed from Corn Seed Population(s) by selection or backcrossing.

(c) "Hybrid Seed Corn" shall mean hybrid seed corn produced from at least one Improved or Recoverd Inbred Line 1(b) above and/or hybrid seed corn produced from at least one New Corn Line as defined in paragraph 1(d) below.

(d) "New Corn Line(s)" shall mean any Parent developed by LICENSEE and

containing any Corn Seed Population or any part thereof.

(e) "New Corn Hybrid(s)" shall mean Hybrid Seed Corn containing at least one New Corn Line(s) or any part thereof.

(f) "Parent" shall mean any inbred and/or single cross line(s) which can be crossed to produce a hybrid.

(g) "Territory" shall mean the United States of America.

(h) "Term" shall mean the period specified in Section 5 of this Agreement.

(i) "MVK" shall mean 1000 viable kernels

ARTICLE II - GRANT OF LICENSE

2.1 ISURF grants LICENSEE the non-exclusive right to use and sell the Corn Seed Population(s) under this agreement for the Term of the agreement. ISURF reserves the right to use and sell under this agreement and to distribute to third parties seed for breeding, research, and commercial purposes. Corn Seed Population(s) provided may be used only as specifically provided in this Agreement

2.2 LICENSEE agrees to pay ISURF a fee in the amount published in the current ISURF / Committee for Agricultural Development (CAD) seed price list for each unit requested for the Corn Foundation Seed Line(s).

2.3 LICENSEE shall not transfer or distribute Corn Foundation Seed Line(s) to any third party not bound by contract to LICENSEE unless the third party is also a licensee of the Corn Seed Population(s). LICENSEE shall not grant sublicenses of Corn Seed Population(s).

2.4 Seeds, plants, plant parts, seed parts, callus tissue or DNA of these Corn Seed Population(s) will not be distributed to a third party without the written consent of ISURF.

2.5 LICENSEE may cross the Corn Seed Population(s) for the production of Hybrid Seed Corn for sale and distribution.

2.6 LICENSEE may backcross a Corn Seed Population(s) as the recurrent parent for research purposes and for development of Improved or Recovered Inbred lines.

2.7 New Corn Lines and Improved or Recovered inbred lines may be increased by LICENSEE for research purposes and the production of Hybrid Seed for sale and distribution only as provided in Article 4 of this agreement.

2.8 LICENSEE may subject a Corn Seed Population(s) to genetic manipulation under this Agreement only provided LICENSEE obtains written permission from ISURF prior to all such activities. The identity of any genetically modified line must carry unique identification as mutually agreed upon by ISURF and LICENSEE.

2.9 LICENSEE agrees that the Corn Seed Population(s) is the property of ISURF. LICENSEE shall have no rights with respect thereto except as may be expressly granted hereunder. LICENSEE shall not apply for any patent or other right and shall not divulge or disclose any information, material or documents, concerning this agreement or the rights contained hereunder or make available in any way or use the aforesaid Corn Seed Population(s) , except as expressly provided in this agreement, without the prior written consent of ISURF.
2.10 LICENSEE agrees to pay ISURF a royalty as determined in Article IV.

2.11 Should LICENSEE decide not to pursue commercialization of the Corn Seed Population(s), its entire supply of Corn Seed Population(s) shall be disposed of as directed by ISURF.

ARTICLE III - DUE DILIGENCE

3.1 LICENSEE shall use its best efforts to bring the licensed Corn Seed Population(s) to market through a thorough, vigorous and diligent program.

ARTICLE IV - FEES

4.1 Corn Foundation Seed Line(s) : LICENSEE will pay to ISURF through its office at 310 Lab of Mechanics, Iowa State University, Ames, Iowa 50011, licensing fees in the amount of $1,000 per Corn Seed Population(s) listed on Schedule A. Licensing Fees will be due and payable upon execution of this agreement.

4.2 LICENSEE shall maintain control of all seed production grown under this Agreement.

4.3 LICENSEE may market and distribute New Corn Hybrids, or Hybrid Seed Corn produced in accordance with this Agreement under their own brand name provided, however, that Corn Seed Population(s) sold or distributed to other Licensees is identified by the Corn Seed Population(s) name.

ARTICLE V - TERMINATION

5.1 LICENSEE shall have the right to cancel or terminate this agreement at any time after six months written notice to ISURF, provided, however, that such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising upon such termination.

5.2 If LICENSEE should fail to exercise the diligence required in Article III hereof, or to deliver to ISURF any agreement, payment, statement, report or other document required to be delivered at the time or times that the same shall be made, or shall use the Corn Seed Population(s) for purposes not herein expressly authorized or if LICENSEE shall violate or fail to keep or perform any obligation, term or condition of this agreement on its part to be kept or performed hereunder, then and in such event ISURF may give written notice of such breach or default to LICENSEE, specifying the

default which is claimed and if LICENSEE should fail to repair such breach or default in sixty (60) days from receipt by it of such notice, ISURF shall have the right to cancel or terminate agreement by written notice to LICENSEE. Upon delivery of such notice of cancellation or termination to LICENSEE, this agreement shall be terminated but termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any obligation of LICENSEE arising upon termination.

5.3 It is further agreed that should LICENSEE be adjudged bankrupt, become insolvent or enter into or make a composition with or assignment to its creditors, then and in such event, this license shall automatically terminate without notice but such termination shall not impair any accrued rights of ISURF or relieve LICENSEE from any other obligation of LICENSEE arising upon such termination, and all seeds of the Corn Foundation Seed Line(s) covered under this agreement are to be disposed of as directed by ISURF.

5.4 This Agreement shall remain in effect until ten years after date of the agreement, unless sooner terminated by either party upon six months written notice of intent to terminate. In the event this agreement is terminated by either party for any reason, LICENSEE will dispose of all licensed Corn Seed Population(s) as directed by ISURF. All provisions of this Agreement regarding sales and royalties on seed produced pursuant to this Agreement shall continue to apply for a period of ten (10) years after the effective cancellation date as if this Agreement were still in force. This Agreement may be extended in its present form, or any modified form, by written request of either party for a period of ten years.

ARTICLE VI - NON-USE OF NAMES

6.1 Neither ISURF, nor LICENSEE or any of its growers shall use the name of either party to this Agreement in any advertising or publicity relating to the Corn Seed Population(s) without prior written permission of that party.

6.2 ISURF retains the right to disclose to the public the transfer of this technology and the existence of this license with the LICENSEE.

ARTICLE VII - INFRINGEMENT

7.1 In the event that LICENSEE shall learn of infringement of the Corn Seed Population(s), or wrongful use of the Corn Seed Population(s), LICENSEE shall notify ISURF in writing to such effect and provide ISURF with evidence thereof in LICENSEE's possession. ISURF shall use its best efforts to terminate the infringement or wrongful use without litigation. If such efforts are not successful, ISURF, in its discretion, may cause suit to be brought for infringement or other wrongful use. If requested by ISURF, LICENSEE agrees to cooperate with ISURF in any infringement or other proceeding that ISURF may institute.

ARTICLE VIII - WARRANT

8.1 ISURF does not warrant the validity or scope of any legal protection that become licensed under this agreement.

8.2 ISURF makes no warranty, expressed or implied, that the Corn Seed Population(s) will be successful for the commercial production of corn seed.

ARTICLE IX - WARRANTIES & INDEMNIFICATION

9.1 ISURF makes no representations, warranties or conditions other than those expressed in this clause. The liability of ISURF with respect to any misdescription of or deviation from the characteristics of such Corn Seed Population(s) with respect to any misrepresentation or breach of condition or warranty, expressed or implied, is limited to refunding the purchase price of the seed sold.

9.2 LICENSEE agrees that it will indemnify and hold harmless ISURF, its trustees, officers, employer, affiliates, from any suits, costs or charges as a result of the manufacture, use or sale by LICENSEE of the Corn Foundation Seed Line(s).

9.3 LICENSEE shall obtain and carry in full force and effect liability insurance which shall protect LICENSEE and ISURF in regard to events covered by 9.2 above.

ARTICLE X - WAIVER

10.1 This agreement may be modified at any time by mutual consent of both parties. Such modifications shall be in writing, signed by both parties, and made a part of this agreement.

10.2 It is agreed that no waiver by either party hereto of any breach or default of any of the covenants or requirements herein set forth shall be deemed a waiver as to any subsequent or similar breach or default.

10.3 This agreement terminates all prior arrangements written or oral and incorporates the entire agreement of the parties. It shall be modified only in writing, signed by both parties. This agreement is made in the state of Iowa and shall be governed by and construed in accordance with its laws.

10.4 Any notices or reports required to be sent to either party to this agreement shall be deemed received when sent by certified first-class mail, postage prepaid, to the attention of the party as set forth below: