To provide science-based crop production information to Iowa corn and soybean growers to increase their productivity and global competitiveness while also conserving the environment.
Soybean Production Economics

Gross income from soybean production (@ 45 bu/acre and $4.30/bu): $193.50 per acre

Gross income from soybean production (@ 45 bu/acre and $5.43/bu – gov’t LDP price): $244.35 per acre

Average cost of soybean production in 2001 (@ 45 bu/acre): $266.75 to $273.45/acre
Soybean Production Economics

Yield vs Net Profit Per Acre

Average Yield (bu/Ac)

Net Profit ($/Ac)

state avg. 2001

relevancy

($200.00)

($150.00)

($100.00)

($50.00)

$0.00

($50.00)

($100.00)

($150.00)

($200.00)
Iowa State University
Corn and Soybean Initiative

Goal

To integrate, coordinate, and brand Iowa State University’s applied research and extension activities in corn and soybean production
Iowa State University Corn and Soybean Initiative

Two Facets

• production research
• extension education
Develop “research platforms”

• look for gaps
• anticipate future needs
Iowa State University
Corn–Soybean Initiative

Overall Goal – Extension
1 oz. turkey: $0.16
1 oz. ham: $0.19
1 oz. Swiss cheese: $0.35
1 oz. cheddar cheese: $0.31
8 crackers: $0.32
1 Andes mint: $0.07

$1.40
1 oz. turkey: $0.16
1 oz. ham: $0.19
1 oz. Swiss cheese: $0.35
1 oz. cheddar cheese: $0.31
8 crackers: $0.32
1 Andes mint: $0.07
1 Lunchable: $2.89
Why do consumers pay $2.89 for Lunchables?!

- complete
- convenient
- coordinated
- marketed
Creating the Iowa State University Corn and Soybean Initiative

**Step #1**

Organize internally

- began in October 2002
- continues today!
- will continue on in the future!!
Iowa State University
Corn and Soybean Initiative
Affiliated Entities

Academic Departments
- Ag. & Biosystems Engineering
- Agronomy
- Economics
- Entomology
- Plant Pathology

Programs
- Ag Quality Systems Initiative
- Agribusiness Education Program
- Grain Quality Initiative
- Integrated Crop Management
- Integrated Pest Management
- Pesticide Applicator Training

Supporting Services
- Crop Management Database
- Field Extension Education Laboratory
- Insect Identification Laboratory
- Outlying Research/Demonstration Farms
- Plant Disease Clinic
- Seed Health Testing Laboratory
- Soil Testing Laboratory
- Weed Identification Laboratory

ISU Extension
- Field Specialists
- CEEDs
- other field & campus staff
Creating the Iowa State University Corn and Soybean Initiative

Step #2

Find out what others think of us
What We Found Out

Confirmation that:

Iowa corn and soybean growers first turn to agribusiness for information, and agribusinesses first turn to Iowa State University for information.
Creating the Iowa State University Corn and Soybean Initiative

Step #3

Organize externally

- began in 2003
- has evolved in the past 36 months
- will continue to evolve
Iowa State University
Corn and Soybean Initiative

Partners Program

Targeted entities will:
- provide in-kind support and promote the Initiative’s values and messages

Entities will receive:
- some set of special benefits
Iowa State University
Corn and Soybean Initiative

Charter Organizational and Media Partners
2004

- Agribusiness Association of Iowa
- Iowa CCA Board
- Iowa Corn Growers Association/Promotion Board
- Iowa Farm Bureau
- Iowa Farmer Today
- Iowa Soybean Association
- Wallaces Farmer
Iowa State University
Corn and Soybean Initiative

Retail and Consultant Partners 2004

- AgPartners, LLC
- C-S Agrow
- C8MP LTD
- FC Farmers Cooperative Co.
- Golden Furrow
- Heart of Iowa Coop
- Heartland Cooperative
- MaxYield Cooperative
- NEW Coop
- Nichols AgriService, LLC
- Pelgrow
- River Valley Cooperative
- Stutsmans
- Twin-State, Inc
Corn and Soybean Initiative Partnerships

Each partner has an ISU partnership manager.

NOTE: These businesses service nearly 70% of the crop acres in Iowa.
ISU Extension Field Specialists – Crops

Crops Field Specialists


Please click on map or text links above
Creating the Iowa State University Corn and Soybean Initiative

Step 4

Begin functioning
Iowa State University
Corn and Soybean Initiative

Staff

- Rich Pope (50%) ISU resource manager
- Malcolm Robertson (100%) partnership program manager
- Greg Tylka (50%) coordinator
- FS–Crops & some CEEDs partnership managers
- college & extension communications specialists
Iowa State University
Corn and Soybean Initiative

• building awareness of CSI
Iowa State University
Corn and Soybean Initiative

- building awareness of CSI
Iowa State University
Corn and Soybean Initiative

• delivering value to CSI partners
• illustrating relevance of ISU research and extension to corn and soybean production in Iowa
• better serving Iowa corn and soybean growers
Partnership Matters monthly newsletter

**Research Brief—**

What’s new in grape colaspis. The grape colaspis is a historic corn and soybean pest that has caused damage to seed corn in recent years. Larvae feed on the root hairs of seedling crops. Damage is most common in corn seed; however, there have been damage reports in field corn and soybeans. The larvae are small, cream-colored grubs (1/8 to 1/4 inch) with light tan heads. The adults are small, brown beetles about 1/8-inch long (a little shorter than a corn kernel). The most recent research from Iowa State prior to this study was in 1941 and 1942 in a corn and red clover rotation.

**ISU research.** In response to the recent damage reported by Ben Kaesz, under the guidance of Joe Tollefson, Department of Entomology professor and chair, has initiated research to learn more about control and sampling methods of the grape colaspis.

**What’s next.** Two groups of field experiments will be conducted in 2005. The first is a trial of seed treatments for effectiveness on controlling colaspis beetles, and for the other we will examine the feasibility of spraying for adult control to prevent egg laying in soybeans.

**Learn more.** A website on the grape colaspis is in the process of being constructed. It will eventually contain the results of this research. The web address is www.cni.iastate.edu/grapecolaspis/

**ISU by the Numbers—**

Alison Robertson
Associate professor of plant pathology and extension field crop pathologist

**ISU Research.** Recently hired entomologist, Matt O’Neal, has joined this network. Beginning in May, the soybean entomology lab at Iowa State University began deploying four traps across the state. The traps will be built at the Research and Demonstration Farms at Floyd, Lucas, O’Brien and Story counties. The 20-foot tall traps collect aphids from May until September, when winged aphids are active. By collecting aphids well above the plant canopy, aphids are captured moving between their overwintering host and soybeans.

**ISU Research.** These traps are part of a multi-state project, financed in part by a soybean check-off fund, that will improve our ability to anticipate soybean aphid outbreaks. Suction trap data from the past four years suggest that large numbers of winged aphids collected in the fall may be predictive of heavy infestations in the following growing season.

**What’s next.** Coupling of suction trap data with field population densities will help validate the predictive power of this network.

**Learn more.** A summary of the current recommendations for soybean aphid management can be found in the updated action fact sheet (SP 247, Soybean Aphids in Iowa) available online or through ISU Extension. To follow the data collected from the suction trap network, visit: www.ipm.iastate.edu/fields/traps/insects/soybean_aphids/suction_trap_network/index.html.

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Partnering for potassium, continued—

- to calibrate commonly used soil-test K methods with yield response and study the variation of soil-test K values and yield to determine possible differences for soil types and (or) topographic positions.
- to study variability of soil-test K results over time and its relationship to the capacity of soil to sustain crop response to K fertilization.
- to study the interaction between K nutrition and incidence of pests and diseases.

**What’s next.** The project will be conducted over two growing seasons. Results will be made immediately available to the research cooperators. After the 2007 season, the cumulative data from the two-year project will be analyzed and production recommendations for various regions will be developed and released to the public.

**Learn more.** Data will be presented to growers and agronomists at extension meetings, in extension publications, and by the partners involved in the research.
Partnership Perk

July 20, 2005

Western Bean Cutworm Scouting Might be Appropriate

Western bean cutworm (WBC) causes damage to corn by entering the ear and feeding on kernels. Economic damage from WBC has occurred in the past 5 years in some cornfields, mostly in Northwest and West Central Iowa. However, the insect may be increasing its range eastward—populations have been found throughout Iowa and into northern Missouri and Western Illinois. WBC has one generation per year, with adult moths emerging in July, mating and laying eggs on corn leaves. The eggs hatch and within a week to ten days, larvae typically move to ears where they feed on the developing kernels, causing direct loss.

For treatments to be successful, insecticide applications must be timed to reach the exposed larvae. Larvae are susceptible to treatment from egg hatch until they enter the ears; once they enter, they are beyond treatment.

The treatment threshold suggested is when 8 egg masses are found per 100 stalks. Egg masses have been found already this season in Pottawattamie, Story, Benton and Buchanan Counties.

Long story short: Insecticides must be applied when WBC larvae are hatched and exposed on the plant prior to entering the ear for successful control. Egg masses have been found in at least four counties across southern and central Iowa. Scouting for egg masses to time insecticide applications should be done now.

Source: Rich Pope and Carol Pilcher, Department of Entomology

Produced by Iowa State University Extension specialists for Corn and Soybean Initiative partners. Questions and comments may be sent to CSi@iastate.edu.
re-purposing of crop production resources
CSI Partner research roundtable discussions

- conducted annually
- 1 or more representatives per retail partner invited
- to inform partners of on-going corn and soybean research at ISU
- to learn from partners their corn and soybean applied research needs
CSI Partner research roundtable discussion March 4, 2005

main research needs articulated by partners attending the meeting

- information on producing corn after corn
- research on role of soil potassium levels on plant health and pests
CSI Partner on-farm research

- July 1, 2005, $100,000 allocated by ISU for CSI on-farm research in 2006 to address needs articulated by CSI partners
- call for proposals from ISU staff in summer 2005
- in fall 2005, 4 projects selected for funding
Rationale:
- Frequent potassium (K) deficiency symptoms in corn and soybean may indicate a widespread problem.
- In addition to direct effects on plant health, K deficiency may affect crop diseases and nematode and insect pests of corn and soybeans.
- Rising input costs necessitate wise application of K fertilizer.

Objective:
To develop a cooperative on-farm research project with ISU Corn and Soybean Initiative partner to develop practical solutions for corn and soybean K nutrition problems and the interaction with pests and diseases.

Experimental approach:
- The partner will conduct cooperative research with ISU in one corn field and one soybean field in 2006.
- Fields to be used in the research will be identified in fall 2005.
- Simple strip trials will be established in each field in which either no fertilizer or a high rate of K fertilizer will be applied. Each set of unfertilized and fertilized strips will be replicated four times.
- Soil and plant samples will be collected and analyzed to assess plant health and pest and pathogen populations as affected by K fertility.

Corn and Soybean Initiative partner will:
- identify growers and fields to be used
- collect soil samples from experimental sites
- provide all fertilizer, seed, herbicide, and any other inputs necessary for normal crop production
- scout fields (training provided by ISU, if necessary) for targeted pests and diseases
- provide yield reimbursement on untreated strips (if stipulated by the farmer)
- collect yield data and end-of-season soil samples
- provide $3,000 support of campus-based activities relating to the research

ISU through the Corn and Soybean Initiative will:
- provide all experimental design, coordination, and protocols
- provide training (if needed) for partner staff to participate fully in the research
- provide all sample analysis for nutrient, pest, and diseases analysis
- conduct data analysis and summarize results
- provide participating partners with all research findings
- provide “ISU Corn and Soybean Partner Research” signage for experimental locations
- provide ISU speakers for limited number of grower field days or winter education meetings as schedules permit
- provide $35,000 support of campus-based activities relating to the research
Corn and Soybean Initiative Partnerships

NOTE: These businesses service nearly 70% of the crop acres in Iowa