

Crop Observation and Recommendation Network: An Electronic Mail Communications Network of Ohio Agricultural Extension Professionals

Steven C. Prochaska, Assistant Professor, Extension Agent, Agriculture and Natural Resources, Ohio State University Extension, Crawford County, 117 East Mansfield Street. Bucyrus, OH 44820, Prochaska.1@osu.edu

Howard J. Siegrist. Assistant Professor, Extension Agent, Agriculture and Natural Resources, Ohio State University Extension, Licking County, 771 East Main Street, Suite 103, Newark, OH 43055-6974, Siegrist.1@osu.edu

Gregory A. LaBarge, Assistant Professor, Extension Agent, Agriculture and Natural Resources, State University Extension, Fulton County, 135 Court House Plaza, Wauseon, OH 43567-1300, Labarge.1@osu.edu

Steven D. Lichtensteiger, Extension Associate, Ohio State University Extension, Northwest District, 952 Lima Avenue, Box C, Findlay, OH 45840, Lichtensteiger.3@osu.edu

ABSTRACT

Steven C. Prochaska, Assistant Professor, Extension Agent, Agriculture and Natural Resources, Ohio State University Extension, Crawford County, 117 East Mansfield Street. Bucyrus, OH 44820, Prochaska.1@osu.edu

Howard J. Siegrist. Assistant Professor, Extension Agent, Agriculture and Natural Resources, Ohio State University Extension, Licking County, 771 East Main Street, Suite 103, Newark, OH 43055-6974, Siegrist.1@osu.edu

Gregory A. LaBarge, Assistant Professor, Extension Agent, Agriculture and Natural Resources, State University Extension, Fulton County, 135 Court House Plaza, Wauseon, OH 43567-1300, Labarge.1@osu.edu

Steven D. Lichtensteiger, Extension Associate, Ohio State University Extension, Northwest District, 952 Lima Avenue, Box C, Findlay, OH 45840, Lichtensteiger.3@osu.edu

The Crop Observation and Recommendation Network (CORN) utilizes the electronic communications ability of The Ohio State University to link agricultural extension professionals across Ohio for the purpose of identifying current crop pest problems and disseminating appropriate pest control information. CORN is an example of pesticide applicator education concepts in practice. Over 3.8 million dollars in pesticide cost reduction by Ohio agricultural producers was attributed to CORN in 1996.

Keywords: crop, observation, network, extension, pesticide, education, Ohio, agriculture

Timely appropriate information is intrinsic to successful pest control, crop production and concomitantly environmental protection. Too often, crop pest protection decisions are made "after the fact" or from an incorrect knowledge base. Further "after the fact" decision-making may not support maximizing crop enterprise profits or environmental protection. Thus pest control decisions based on field observations, economic thresholds, and pesticide label rates follow Integrated Pest Management (IPM) protocols. The use of an electronic communications network greatly enhances an IPM network in monitoring potentially damaging pests and concomitantly

disseminating timely pest control recommendations.

Additionally, one of the key functions of a land grant university agricultural college is to disseminate research based information. Although the traditional means of delivery of information (meetings, bulletins, farm visits) are still viable, new technologies provide a wide range of opportunities to educate in both an effective and cost efficient manner. Evidence of the wide-spread interest and adoption of new communication technologies by the public can be seen by the growth in the use of the Internet. As such, for Ohio State

University Extension to be able to compete with other information sources now and in the future, it will be necessary for Extension personnel to learn about and create educational opportunities that utilize electronic communications. To that end, the Crop Observation and Recommendation Network (CORN) was created to meet clientele needs for current pest identification biology, threshold levels and when necessary, pesticide recommendations. Because CORN is based on field scouting, correct identification of the pest, economic thresholds, judicious pesticide selection and adherence to label directions, it is an example of and a strong reinforcement of pesticide applicator education concepts.

The Crop Observation and Recommendation Network (CORN) utilizes the electronic communications capabilities of The Ohio State University (OSU) to link agricultural extension professionals in Ohio and surrounding states for the purpose of identifying crop production problems and disseminating mitigating information related to those observed/anticipated problems on a timely basis. The CORN network more effectively uses finite human Extension resources while at the same time creates a strong interdisciplinary team.

The critical action component of CORN is the weekly utilization of Extension electronic mail capability by a large number of extension personnel in Ohio. An electronic distribution list was created (CORN-IN) that OSU Extension professionals use to submit field observations and/or questions on agronomic, plant pathology, entomology, and crop nutrition topics. These observations and/or questions can then be reviewed by state specialists in a very time efficient manner. Response to these agricultural questions over electronic mail (CORN-OUT) in one lesson can save hours to the specialist. Also, CORN creates a greater awareness to state specialists of current problems across the state.

The CORN network interfaces year-round via OSU Extension electronic mail distribution lists. Additionally, during the growing season, a conference call to further discuss

identified crop issues and recommendations is scheduled every Monday morning from 9:00 to 9:45 am. Greater accuracy and depth in recommendations can be achieved via the supplementary conference call. Further, most problems are multi-faceted; as such, it is appropriate to address these problems from a multi-disciplinary viewpoint. This type of networking functions to create better teamwork among OSU Extension professionals. During these conference calls, twelve lines are available to state specialists and agents through the OSU Office of Communications to verbally discuss the current crop pest and production issues.

An Extension agent editor, with expertise in IPM, volunteers every week to facilitate discussion during the conference call, as well as gather localized information relating to crop pest problems from various sectors of the state. Further, the editor receives via electronic mail from state specialists and county agents, crop nutrient and pest control recommendations for the identified problems received off CORN-IN and the concomitant conference call. The editor, by Monday noon, will have received the new crop cultural and pest control information. The editor assembles and edits the material into the electronic newsletter, which is sent back out via another electronic subscription distribution list (CORN-OUT). Thus, by Monday afternoon in the growing season, agronomic professionals in Ohio and throughout the Midwest receive timely pertinent information on the occurrence, level, and biology of crop pests along with the concomitant control recommendations.

The only significant costs associated with CORN are telephone long distance charges to participants of the conference call and/or facsimiles to CORN recipients who do not have electronic mail. Approximately, fifteen extension agents from across Ohio participate in CORN with nine state specialists at different times of the year.

The informational benefits of CORN extend directly to the private sector through not only electronic communications, but also from county extension offices to local facsimile transmission to agribusiness.

A survey of CORN users was conducted by participating extension agents in 1996. This survey represented 1.69 million acres serviced by agricultural professionals of Ohio's major crops. More specifically, 26 percent of Ohio's corn, 18 percent of Ohio's soybeans and 18 percent of Ohio's wheat were represented in the survey. The actual survey used is attached. The reliability of survey results was verified by a review of Ohio State University Extension crop enterprise budgets (agronomist recommendations for pest control), the Ohio Agricultural Statistics 1995 Annual Report for corn, soybean and wheat acres receiving pesticide applications and most importantly the many written comments on the survey forms further conveying the value to their business. The total client pesticide cost reduction attributed to CORN was 3.8 million dollars in 1996. The impact of CORN has been significant to both farmers and Extension professionals throughout Ohio.

Readers can subscribe electronically to this newsletter by sending an e-mail with the message "**subscribe corn-out**" to:

listserv@agvax2.ag.ohio-state.edu

A successful subscription message will receive a reply from the listserv.

Readers can also see the current issue or past issues on a the World Wide Web by pointing their browser software to URL:

<http://www.ag.ohio-state.edu/~corn>

Corn Survey Results

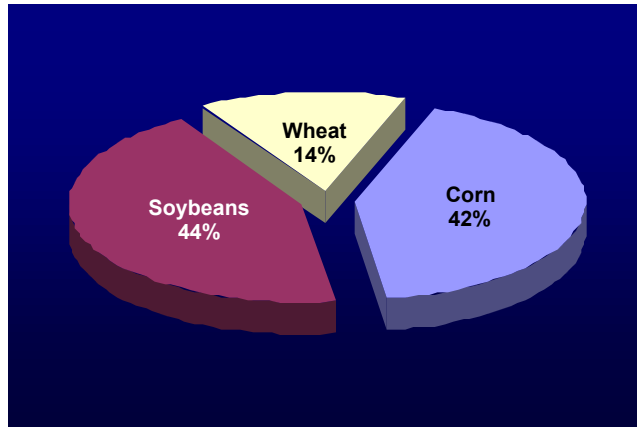


Figure 1. Acres by crop of agricultural businesses responsible for making pest control recommendations.

Corn	715,080
Soybeans	736,000
Wheat	239,100

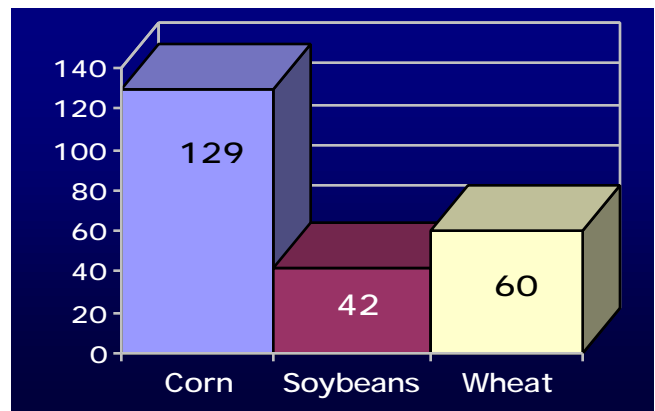


Figure 2. Three year weighted average yields by crop (bushels per acre) of clients of agricultural businesses making pest control recommendations.

Corn	129
Soybeans	42
Wheat	60

Figure 3. Total estimated client pest control cost reduction attributed to CORN (dollars). See chart below.

Corn herbicides	\$1,856,825
Soybean herbicides	\$1,292,794
Wheat fungicides	\$688,400
Corn insecticides	\$55,500
Total	\$3,893,519

CONCLUSION

In conclusion, the use of electronic communications to address current crop pest and production problems is an efficient and effective use of university resources and personnel.

Below is the survey instrument used to evaluate the effectiveness of CORN (Figure 4).

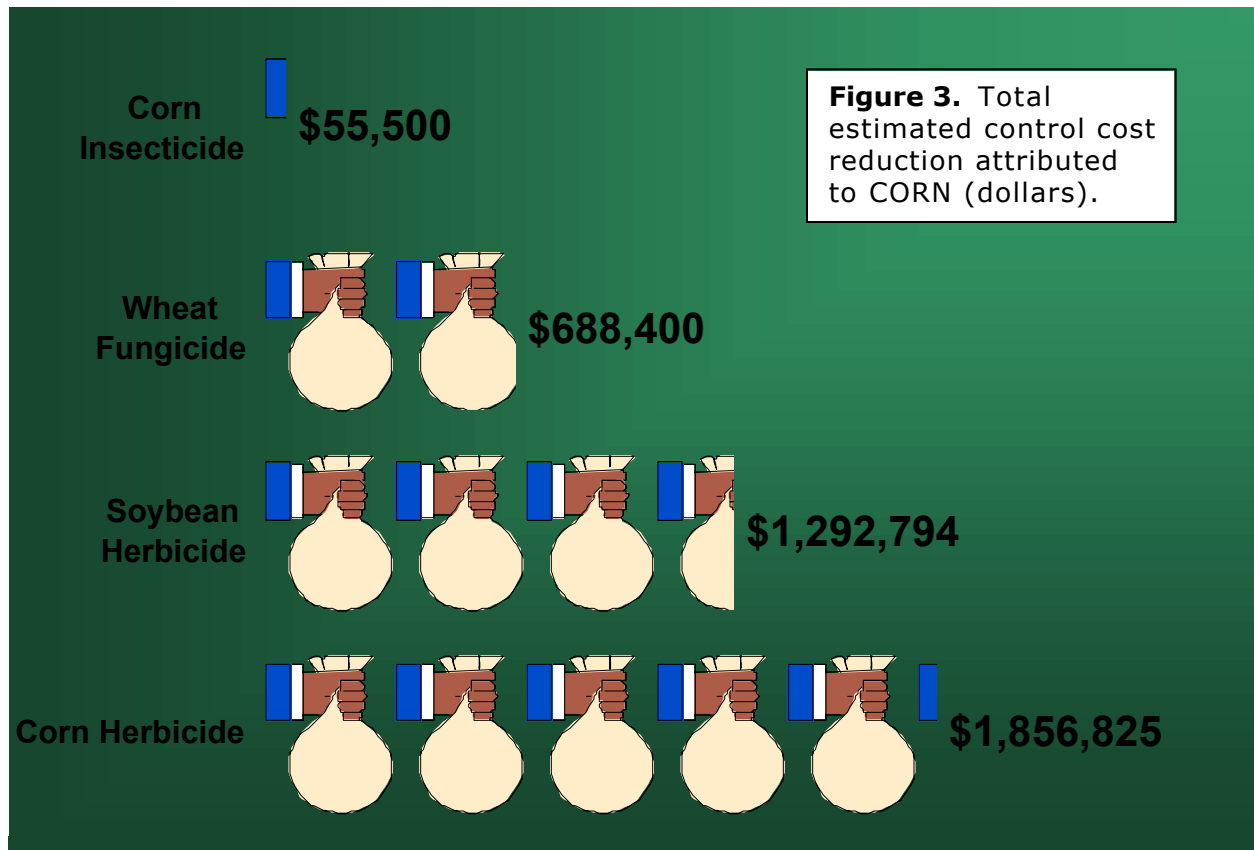


Figure 4. Survey Form - condensed from original format.

C.O.R.N. Crop Observation and Reporting Network

This is your chance to give us your feedback. What did we do right? What could be improved? Please respond to these questions to give us some input of how well we are doing.

1. **How many acres is your company or business responsible for making recommendations?**

	Acres
Corn	
Soybeans	
Wheat	

2. **What has been the three-year average yields (1993-95) for your client's crops?**

	3 Year Average Yields
Corn	
Soybean	
Wheat	

3. **Estimate your client's cost for pest control.**

	Corn	Soybeans	Wheat
Herbicides			
Insecticides			
Fungicides			

Please circle your answers for the following statements:

4. **Rate the value of C.O.R.N. in improving the timeliness of weed control applications.**

0% improvement 10% improvement 15% improvement 20% improvement

5. **Rate the value of C.O.R.N. in reducing client weed control costs.**

0% improvement 10% improvement 15% improvement 20% improvement

6. **Rate the value of C.O.R.N. in improving the timeliness of insect recommendations and applications.**

0% improvement 10% improvement 15% improvement 20% improvement

7. **Rate the value of C.O.R.N. in reducing client insect control costs.**

0% improvement 10% improvement 15% improvement 20% improvement

8. **Rate the value of C.O.R.N. in improving the timeliness of disease control recommendations/applications.**

0% improvement 10% improvement 15% improvement 20% improvement

9. **Rate the value of C.O.R.N. in reducing client disease control costs.**

0% improvement 10% improvement 15% improvement 20% improvement

10. **Detail how we can improve C.O.R.N.**

Thank You!

Compiled by: Steve Prochaska
Howard Siegrist