Teamwork Pays Off

Extension, Experiment Stations Merge Strengths to Meet Market Demands

Growers, researchers, and Extension agents work collaboratively to address current problems.

When consumers in western Colorado shuck an ear of sweet corn and delight in the clean, bright kernels, they're witnessing the benefits of partnerships between Cooperative Extension and Agricultural Experiment Station (AES) at Colorado State University. That's because corn that's picture-perfect, disease- and insect-free, sweet, and delicious doesn't happen by accident. Rather, it's because of a long-standing and deliberate effort to prevent the corn from environmental hazards and to create optimum conditions for the highest-quality product possible.

While both Extension and AES may have similar expertise and knowledge, they fulfill different roles. Extension agents work in the field, side-by-side with farmers and ranchers to help identify any problems they may be having or to determine what problems might be developing that haven't yet materialized. Likewise, AES provides the scientists, equipment, and facilities necessary to conduct long-term controlled studies in response to data collected by the field agent. As they study pests, diseases, moisture, temperature, and soils under controlled conditions, they are able to discern the best herbicides, spraying practices, harvest times, packing methods, and more.

An example of the positive impact of these partnerships was recently played out in Mesa County. In 2001, a corn-loving pest called a sap beetle infested about 400 acres of sweet corn, wreaking havoc on the crops and adding up to a harvest loss of about $500,000. Extension entomologist Bob Hammon, along with AES research scientist, Rick Zimmerman (Rogers Mesa), Fred Judson (Fruita), and John Wilhelm (Orchard Mesa) began studying the beetle in controlled plots to learn how it caused the damage and how it could be controlled.

Within one year, they discovered that a change in the timing of chemical spraying could greatly reduce the impact of the beetle, and subsequently, thousands of acres of sweet corn were saved in future harvests.

Studies on how best to combat the sap beetle are ongoing, but even what the agents have gleaned so far has helped and given growers encouragement.

Olathe resident John Harold grows 1,400 acres of sweet corn, onions, and feed. "The folks at CSU have put a tremendous amount of research into insects and managing water and soil pH levels. They've also helped with EPA training and labor. What they do for us is so beneficial that if they weren't around, we wouldn't have half the success that we do."

Extension agronomist Wayne Cooley, with John Murray of the Natural Resource Conservation Service, recently put together growers, Extension agents, and scientists to help treat the pH levels in the soils and irrigation water around the Uncompahgre Valley where Harold farms. According to Rogers Mesa Experiment Station research scientist Ron Godin, high soil pH levels prevent plants from taking up adequate nutrition, so he is conducting the first year of a three-year study to remedy the problem by adding sulfur and compost to the soil and acidifying the irrigation water. Harold appreciates how the cooperative efforts between Extension, research station scientists, and other agencies are proactive, thus preventing future problems from occurring.

Colorado State University

Knowledge to Go Places

Pictured on front: Brad Koch, Raj Khosla, and Bruce Bosley inspect corn near Brush, Colorado.

Sweet corn growers aren't the only people who benefit from this type of collaborative research. Studies are being conducted across the state to learn more about onions, alfalfa, canola, field corn, dry beans, mountain meadows, and small grains.

The small and controlled plots at AES research centers are excellent sites for many of the studies, but researchers also need multi-acre plots necessary for pesticide trials. In that scenario, area growers provide parcels of their own farmland for the projects. Pesticide studies are conducted to answer both immediate and long-term concerns so researchers can evaluate environmental impacts; how weather patterns effect the chemicals; the appropriate times and amounts to spray; and when or how pests and diseases develop resistance to the formulas.

In the end, the data gathered from these studies is communicated to pesticide manufacturers to help them create more effective pesticides; to chemical applicators for more efficient spraying; and to the producers themselves so they can yield the best possible crops and, therefore, reap the highest profits. With their involvement, producers become yet another partner in the efforts toward successfully managing agricultural lands and producing affordable and attractive food.

Similar partnerships abound involving a variety of projects which ensure that our food, environment, and backyards are healthy and beautiful. A sample of the kinds of work being conducted between Extension and AES agents include:

- offering technical training and hands-on pruning workshops for Colorado master gardeners,
- reclamation work on mill tailings in Leadville,
- training migrant workers for pesticide use and to understand worker protection standards, and
- educating ranchers on feed and pasture issues during times of drought.

In most cases, the team of agents and scientists from the different arms of the University relies heavily on producers, industry-related businesses, and even retailers. This promises that the tax dollars paying for the work will give farmers the greatest return on their investment and consumers the best, safest, and most affordable products and services.

– Leigh Fortson

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Cooperative Extension, Agricultural Experiment Station, and Growers Collaborate

It's not enough to plant a crop and hope for the best. Colorado State University capitalizes on Extension's ability to network and bring growers together with the scientists. With this union, Extension and Agricultural Experiment Station can look at how best to resolve the high pH levels in soils and irrigation water around the Uncompahgre Valley that prevent plants from taking up adequate nutrition. This kind of collaboration is being considered for studies with onions, alfalfa, canola, field corn, dry beans, mountain meadows, and small grains.