**ENHANCING AGRICULTURE AND THE ENVIRONMENT**

- **Agronomic research** with Extension education had a 45% rate of return on investment. Agronomic studies conducted at the OSU Unger Farm included the following:
  - Effects of Modified Relay Intercropping (MRI) on wheat yield
  - Effects of insecticides on MRI soybeans
  - Effects of pre-emergence soybean herbicide on cover crop germination
  - Effects of post-emergence herbicide on cover crop germination
  - Western bean cutworm survey and resistant marestail weed survey throughout Crawford County
  - Effects of fungicides on multiple crops with various drainage classes
  - Effects of crop growth-promoting products on yield
  - Effects of cover crops on yield and soil health
  - Economical methods to plant cover crops for a viable stand establishment
  - Benefits of water and nutrient management
  - Effects of side dressing hog manure on corn yield in Crawford County
  - Statewide soybean yield-limiting identification survey
  - The Manure Science Review brought 175 people to learn the latest manure application technology and how to achieve the most benefit from manure use on their farms.
  - Twenty families benefited from the Unger Farm Community Garden by growing their own vegetables to reduce grocery bills.
  - The [C.O.R.N. (Crop Observation and Recommendation Network) Newsletter](https://extension.osu.edu/corn), edited and distributed by OSU Extension Agriculture and Natural Resources educators, saved farmers money through increased crop yields and decreased input costs.
  - Private pesticide applicators save an average of $10 per acre in pest control. Seventy people in Crawford County were among over 1,200 in the Erie Basin to attend Pesticide Applicator Recertification.
  - Over 60 producers representing more than 6,200 heads of cattle declared they will gain an average of $58 more per animal sold due to Crawford County’s Beef Feedlot School.
  - Emergency personnel were trained in anhydrous ammonia safety in order to respond to an accident involving this type of fertilizer. Personnel were also trained to be ready to treat patients with chemical injuries.
  - More than 50 producers and three of the largest companies/ cooperatives on the 4Rs of nutrient stewardship discussed locally improving water quality from the time it enters until it leaves their farms.

**PREPARING YOUTH FOR SUCCESS**

- Crawford County 4-H enrollment was 699 members.
  - There were also 530 project members, 133 Cloverbuds, 21 in-school participants and 15 campers not otherwise involved in 4-H. Through project work and cooperative
experiences, club members learned parliamentary procedure, communication skills, value of community service, leadership, sportsmanship, public speaking, teamwork and the importance of completion. Twenty-six 4-H Clubs provided a 5:1 youth/adult ratio to develop the “positive relationships with caring adults” that are so critical to positive youth development.

- Of 1,347 4-H projects taken, over 88% were completed at judging. Youth practiced interview and communication skills. Project focuses were employed to develop life skills including leadership, public speaking, planning skills, goal setting, record keeping, organization skills, decision making and citizenship. Ninety-five percent of livestock project members completed Skillathons, assessing their knowledge gained of the livestock industry.

- Thirty teens served as 4-H Camp Counselors. This leadership experience developed skills of benefit in the “work world” and throughout life. Counselors identified substantial improvement in problem solving, taking initiative, expressing thoughts clearly, speaking in front of a group, working with people different than themselves, encouraging/supporting others and organizing people around an idea. Several counselors learned the ability to work with others to resolve differences. The biggest moment for one teen was, “When I realized I could have impact on and influence my camper’s lives.”

- 4-H Camp provided a learning laboratory for 109 youth to learn leadership, science, citizenship, teamwork, relationship building, nature, leisure time activities, environmental responsibility, responsibility for self/belongings and healthy living. Significant improvements were acknowledged in these abilities: team work, trusting others, building/strengthening relationships, “looking out” for others, knowing how to fit in, confidence and understanding the negative effects of drugs/alcohol use.

- Seventy-six 5- to 8-year-olds participated in “Pioneer Times” Cloverbud FUN Day, experiencing pioneer life through these activities: soap carving, candle making, chore relay, leather craft, sewing, basket making, corn husk creations, indoor period games and food preparation. Participants learned first-hand that life was not nearly as easy for pioneer children.

- At livestock Quality Assurance Training, 329 Junior Fair exhibitors learned responsibilities to animals, consumers and the livestock industry. They improved their understanding of the 10 good production practices of animal care and animal behavior, and they learned the importance of bio-security, animal identification and record keeping.

- 4-H volunteers reported spending 64 hours on average supporting 4-H. Utilizing the $19.23-an-hour value for volunteer time from the private sector, $153,840 was donated to our community by 4-H volunteers.

- When Tufts University compared 4-H and other out-of-school-time youth programs nationally, they found 4-H members are two times more likely to contribute, three times more likely to pursue science-related experiences and careers, two times more likely to go to college and less likely to be involved in risky behaviors.

- Over 210 4-H members learned leadership skills serving as 4-H Club Officers. At training, 75 club officers improved leadership skills and learned about 4-H. Over 90% of evaluations reported that officers felt that the materials covered were relevant to their duties and helped them better understand their role.

- 4-H is known for community service and environmental stewardship. Club community service projects included trash pickups, recycling, material/monetary donations to shelters/food pantries/drives, building relationships with lonely seniors, maintaining a community garden benefitting those in need, helping at events and beautification projects from landscaping to benches. A countywide Electronic Recycling event provided the community a “green” outlet for unwanted electronics. 4-H community service experiences provided youth with a clearer understanding of the importance of community involvement and giving back to community.

- Nine hundred nineteen science-based 4-H projects supplemented school learning and encouraged exploration of science fields.