

## MEADOWLARK EXTENT DISTRICT WEEKLY NEWS FROM AGENTS

**Jody G Holthaus**  
**Meadowlark Extension District Agent**  
**Livestock-Natural Resources**

Where Does Your Food Come From?

This is a talk that I've created for kids, since we are two or three generations removed from the farm, it's important that they know how their food is made. Someday, they will be our consumers and making their own decisions in the grocery store, or more likely at the fast food place.

Livestock production has changed dramatically in the last 50 years. Farms have gone from mixed crop and livestock operations to specialized livestock operations. Economic factors- the cost of land, labor, capital and environmental regulations—have brought about these changes. The cost of labor and land per animal fell dramatically while capital investment and environmental costs increased. Farms with small herds or flocks yielded to large specialized farms with larger animal concentrations.

Before 1950, farms had many different crops, including hay and pasture, as well as many types of animals, cattle, hogs and chickens. In the twenty first century, there are large specialized farms: dairies, beef feedlots, hog operations, and chicken and turkey houses. These operations use smaller land areas, and can be managed with smaller amounts of labor. The result is animal facilities where all the best health controls are available and applied to keep the herds or flock healthy.

Technology has come to the farm, dairies know the daily and annual milk output for every cow in the herd. Beef farmers know the weight gain and feed conversion efficiency of every sire used in their breeding programs. Feedlot operators know the weight and gain, and the carcass value of every animal, poultry producers know the feed to meat ration of their broilers and the egg production of each hen.

Animals such as cattle, sheep and goats still graze land too rolling, too dry, or otherwise not suited for crop production. This is a question the kids often ask, "why don't we plant all the land to fruits and vegetables for people". I then explain the difference in crop production and that type of farming.

Cow/calf and sheep operations harvest the biomass that would otherwise be uneconomical to harvest.

Farm size has increased from 160 acres to more than 500 acres. The labor necessary to produce a bushel of corn decreased from more than thirty minutes in 1930 to a fraction of a minute. Availability of high powered well designed equipment; well adapted hybrids very precise weed, insect and disease control; improved plant and animal genetics; and improved animal health have all contributed to the revolutionary plant production. Biotechnology and computer revolutions enable us to manage large operations and design crops and animals that will be more nutritious in the future. Consumers are the major beneficiary of these developments since food purchases now require less than 1 percent of average income.

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**David Hallauer**  
**Meadowlark Extension District Agent**  
**Crops & Soils/Horticulture**

### **Deep Tillage – Should I or Shouldn't I?**

A 2016 K-State Department of Agricultural Economics custom rates survey indicates a custom rate for disking at \$11.60/A, chisel at \$12.50/A, and deep chisel (12 inches plus) at \$15.00/A. While numbers like that make us second guess many 'recreation' type tillage operations, when are rates high enough that we reconsider our 'necessary' tillage operations?

First, what is 'necessary'? Necessary is those operations that a little field research indicates are needed because of root restricting compaction. These are best determined by digging down in to the soil profile (18 inches is a good start!) with a spade or soil probe to look for dense layers that are restricting plant roots. If plant roots hit compacted areas and grow horizontally, you might have a problem! If roots have penetrated – you're probably okay.

If you do find a root limiting layer, mark the depth. The tillage pass should be done about one inch deeper than the end of the dense zone. If one inch deeper is good, why not go four? Because, as you double the depth of the tillage operation, you quadruple the power requirement! That means that going too deep is a waste of time and energy, not to mention potentially damaging to soil structure (particularly if tillage is performed when conditions are too wet!). Plus, while tillage can temporarily loosen soil, it breaks natural soil structure into smaller pieces. Eventually these tilled soils re-compact and become denser with time.

While difficult, prevention really is your best option! Deep compaction is caused by heavy axle loads. Research indicates that axle loads greater than 10 tons can cause compaction as deep as 12 to 18 inches, and many modern implements weigh well over 10 tons per axle. The only way to reduce axle weight is to decrease the load weight or add axles (axle load cannot be reduced by adding more or larger tires!). Continuous no-till soils can become more resistant to subsequent compaction, and long-term research conducted in the Great Plains shows that no-till is more resistant to compaction at wetter soil moisture levels.

Bottom line: before hooking up a tillage implement that's going to cost you money, be sure you're losing money from compaction in the first place! That means checking for compaction first, then doing what you can to avoid it further!

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**Cindy Williams**  
**Meadowlark Extension District Agent**  
**Food and Nutrition, FNP**

### Navigating the World of Student Loans

I recently saw in the local papers about Jefferson County students that are receiving scholarships. Congratulations, but this also means the reality of paying for another semester or year of college.

As state funding for higher education has dipped and tuition and fees have gone up, college students have increasingly turned to student loans to help pay for tuition, books and more. The good news is that such help is available, but understanding the long-term implications on a borrower's overall financial picture is critical, according to Dr. Elizabeth Kiss, associate professor of family studies and human services at Kansas State University. Student loan debt can affect careers, home ownership and overall wealth years after the last college exam is taken.

"Approximately 40 percent of undergraduate students received federal student loans in 2013-2014" said Kiss, who is a family resource management specialist with K-State Research and Extension. "Student loan debt, as a proportion of American's debt, has increased over time. By 2013 it was 9 percent of the total debt of Americans, second only to mortgage debt." Kiss and colleagues at other land-grant universities collaborated to provide comprehensive information about student loans in one place. The [Student Loan fact sheet series](#) includes information on pre-borrowing, borrowing repayment considerations, and what to do if you run into challenges. The resources are on [eXtension.org](http://eXtension.org), an educational collaboration by land grant universities aimed at providing information on a variety of topics.

An analysis of U.S. Department of Education data shows 30 percent of student loans in 2015 were either in deferment or forbearance, where borrowers have requested more time to pay them off or asked that the amount of the payment be temporarily reduced. In addition, 7 percent of student loans were in default.

Having student loan debt well into adulthood can hamper one's ability to buy a home, save for retirement or start a business, Kiss said.

Critical moments in the decision-making process include evaluating post-high school options. Is a four-year school across the country the best choice? What about a community college 15 minutes from home? Public university or private college?

Would be borrowers should understand what type of loan they are considering: private (commercial lenders or banks) or public (government) loans? Is the loan need based or non-need based? Borrowing and repayment options differ by the type of loan.

Know the long-term implications, Kiss said, including the repayment process, before signing loan documents.

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**Nancy C. Nelson**  
**Meadowlark Extension District Agent**  
**Family Life**

No news from Nancy this week