

Corn crop residues have value now and later

BY Kenny E. Perry, Extension Agent for Agriculture and Natural Resources

Thirty or forty years ago, most farming operations had livestock and raised crops on the same farm. At that time, it was quite common to see cattle or hogs that had been turned out on a harvested corn field to glean the waste grain and crop residue. However, since then most farmers have moved toward a monoculture of either grain or livestock production. Fences have also been removed or allowed to deteriorate to where they won't contain animals anymore. So grazing animals on crop residue isn't quite as attractive as it once was.

There are some livestock producers, however, that may be forced to consider using harvested fields to feed herds because of drought, high feed costs or hay availability. This can create a dilemma for both livestock and grain producers. Is there enough nutrition in crop residue to graze and what does it cost grain producers if they allow fields to be grazed after harvest?

The Iowa State University Beef Cattle Center data indicates that for each acre of corn stalks grazed approximately one-half ton of hay will be saved. Crop residues are normally the least expensive feed source because most expenses are charged against the row crop enterprise. The cost of grazing corn crop residue is about 5 cents per day according to Iowa State University beef cow business records. So it can reduce hay needs and be a cheap source of feed and it does usually contain enough nutrition to sustain a herd if stocked at the proper level.

But what does it cost to remove crop residue from a field? An average field of corn here in western KY will yield 140 bushels per acre. There will be an equivalent amount of residue left after harvest in the form of stalks, leaves, cobs and husks. So, let's assume that the residue will weigh 4 tons. In each ton of corn stalks removed from a field there will be 14 pounds of nitrogen (N), 7 pounds of phosphate (P) and 29 pounds of potash (K). Multiply those values by 4 tons of residue per acre and that equals 56, 28 and 116 pounds of N, P and K, respectively.

Now, as we convert those nutrients removed to the cost of fertilizer today and the total dollars removed in 4 tons of corn stalk residue, we see that there is \$102 worth of nutrients per acre of crop residue in a corn field. Cattle grazing harvested fields will only remove one-fourth to one-third of the total amount of residue, but baling corn residue will result in a much higher removal percentage.

Removing crop residue can also result in lost dollars in subsequent years. Dr John Grove, UK soils specialist, reported that fields with normal crop residue yielded 9 more bushels per acre than fields with no crop residue. He attributed the yield difference to better moisture

holding capacity in a dry year, increased organic matter content and nutrient availability. However, he did say that removing crop residues should not affect a field long-term if it isn't practiced every year, and that the addition of animal waste can help overcome the short term effects.

So, when hay or feed is in critically short supply as it is in Texas right now, feeding or grazing crop residue may be profitable. However, grain fields should be treated with additional care and more commercial fertilizer when residues are utilized for animal feed. For more information, contact the Graves County Extension Office at 247-2334.

Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability, or national origin.



Bales of corn straw are loaded on trailer outside of Mayfield earlier this week. Crop residues can remove considerable nutrients from a field and result in lower yields in subsequent years unless those nutrients and organic matter residues are replenished with cover crops or animal manures.