



Field Notes for The Week Of

4-4-2022

Residue Management

The first full week of April is playing some tricks on us with snow flurries and cool winds. The cool beginning of April could be the trend for the remainder of the month, on the bright side the precipitation levels have been on the low side. With the lower levels of precipitation, the soil has been able to dry out very well enabling farmers to take advantage of getting a jump on spring chores. This week was a very busy week for me from field visits to taking calls and wrapping up some must need trainings for producers. This week I was able to have some great discussion with farmers at my Tobacco GAP training and last week at Pesticide and Fertilizer applicator training. Even with all the craziness going on in the world and ever-increasing input cost, farmers are still positive and ready to start the 2022 growing season. I had a lot of discussion about being more sustainable and making better use of what they have and reducing waist. One example of this is residue management. Today, I want to discuss some key concepts and factors to consider when managing heavy residue this Spring.

The 2021 corn crop was considered an above average crop, with strong yields and a lot of foliage growth. With all that foliage came a lot of residues left on the surface of the soil. Residues left from the previous crop can be a great source of nutrients that was not deposited in the grain, but it can also present farmers with challenges in the Spring. Some challenges that can be presented by heavy residue are cooler soil temperatures, host for diseases and pest, and planter/seed placement. Here are some considerations to crop residue and proper management this spring.

- **Residue should be considered fertilizer**- As crops grow during the growing season, they will take up nutrients to build plant cells, tissue, foliage, and seed. Each crop deposits different amount in each part of the plant. Some nutrients are removed from the field through grain, but residue left on the field still has nutrient left to break down slowly, only 20% of crop residue will become soil or humus. An average corn crop will leave about 5 tons of residue roughly containing 4.8lbs of phosphorus per ton and 18lbs per ton of potassium. On the other hand, soybeans only produce about .5-1 ton/acre, leaving about 4.7lbs of phosphorus/ton and 23lbs of potassium/ton.
- **It takes nitrogen to break down residue**- Each crop has a carbon to nitrogen ratio; this is the ratio of the amount of carbon and nitrogen that is contained in the plant residue. The C to N ratio is influenced greatly by the amount of lignin and cellulose each plant contains. Crops that have hardy stalks and woody plants will have high amounts carbon compared to nitrogen. Corn stover is on average 60:1 ratio compared to alfalfa which is 13:1. In this case corn stalks will take much more nitrogen to break down than alfalfa residue.

