A Statement about Peas and Oats as part of a crop rotation
April 2019/April 2020

The agreed upon crop rotation has been hay-- typically alfalfa or a grass-with corn and sometimes soybeans. We tried Peas and clover in place of hay with a second and third year of oats. Both peas and oats are considered a protein crop when looking at nutrient management for soil needs. This type of rotational choice only allows for a seeded crop to remain rooted in the fields to counter soil erosion which is a major concern globally and here in Thorp, WI. This rotational choice does considers the nutrient management that is different from a traditional hay crop since peas lock nitrogen in their roots and distribute it over the course of several years.

Peas and Oats are both nitrogen fixing crops (just like the soybean) but unlike the soybean the peas and oats fix the nitrogen in the soil from the nodules on their roots (the soybean fixes the nitrogen on the top of the soil and has to be cultivated into the soil to steadily fix it into the soil for legume consumption. Pea and Oat roots should be allowed a steady decay inside the soil profile so that a crop like corn can reach it when needed.

However, both peas and oats take from the soil considerably to build their protein component and so it is important that this kind of rotation be made to last the full four years seed dealers sell everyone on but many farmers do not know how to extend successfully through the fourth year. It will be difficult to allow the current seeding to be disrupted until 2022. Vicki's crop walking showed the pea crop (which at first she saw as an interesting rotational aspect until she did a little research). Now that time has been taken to research this rotational choice there are questions that need answering and not fertilizers to be bought.

How will the current seeding be fortified to last all four years?

What is the nutrient management decisions that were made before this crop was introduced?

What are the nutrient management choices now and in the next two years?

These are only a few of the questions needed to be asked and considered. With the 2 feet of snow received by these fields over the winter of 2017—2018 the nitrogen levels may have been too high making the crop not viable in 2019 and many seed dealers sold farmers on an idea of a freeze that happened before enough snow cover which was not the case in Thorp. It seems what happened was that the second year crop was burned off by too much nitrogen in the field and the spotty way it came in confirmed this.

Crop rotation is important and changes to it must be made in thinking about past and future years. Hay is the accepted return with a hope we don't have to discuss a wheat crop in order to re-balance the soil.

References:

https://fyi.extension.wisc.edu/forage/pea-and-small-grain-mixtures/
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https://www.sciencedaily.com/releases/2016/06/160601131809.htm

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