

Increasing manure management flexibility with wheat

Wheat also opens new avenues of weed control, particularly for problem weeds like sow thistle, dandelion, fleabane, or quackgrass By Lilian Schaer

Adding wheat to a rotation offers more flexibility when it comes to manure application, as well as supporting soil health.

ADDING AN EXTRA CROP to your rotation is one way to have additional options for spreading manure over the course of the year.

That will help avoid the need to spread nutrients in the winter. Application on frozen or snow-covered ground limits the soil's ability to absorb the nutrients and they often end up washed away into water courses by winter rain or thawing events, where they have negative impacts on the environment.

One of the easiest crops to add, say experts, is wheat - and it provides benefits above and beyond just

manure management.

"Wheat seems to be really good at supporting soil health - that's been proven at different locations in Ontario with wheat in long-term rotations," says Peter Johnson, consultant and resident agronomist with Real Agriculture.

"If a grower adds wheat, they'll get benefits in terms of yield resiliency and yield increase too, beyond the manure management benefits," adds Prof. Bill Deen, Associate Professor in Cropping Systems at the University of Guelph.

In a corn-soy rotation, most manure is applied before planting or after harvest, where field and weather condi-

tions often come with increased compaction risk and time constraints to getting manure onto the field before planting or before the ground freezes.

Adding wheat provides a summer application window when farmers have more time to spread manure and soils tend to be dry which minimizes the chance of compaction. It also boosts plant nutrient uptake and reduces runoff risks into nearby water courses.

As well, mid-to-late summer application can offer more flexibility with the manure storage capacity, particularly for producers with limited capacity. A rotation that includes wheat also pro-

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vides a proper niche for cover crops, which when combined with manure application, can have real impact on soil organic matter as well as serving as fall forage option.

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“Putting wheat in gives you such an opportunity to add other crops into the rotation in terms of cover crops,” adds Johnson. “In Ontario, we plant wheat in the fall and harvest it late July to early August and now you can grow a cover crop or under-seed with red clover to boost your soil health.”

Soil and manure testing are great tools to help establish application rates and ensure nutrient balance. When using both manure and synthetic fertilizer, producers should adjust the nitrogen rates in their synthetic fertilizer to account for the nitrogen, phosphorus and potassium contributions coming from the manure, advises Deen.


In addition to selling the wheat itself, an additional income source from the crop could come from the straw, which Johnson notes added about \$200 of revenue per acre in 2019. Wheat straw provides excellent

roughage for proper rumen function, with many dairy farms now feeding some straw in their rations.

On the agronomic side, wheat opens new avenues of weed control, particularly for problem weeds like sow thistle, dandelion, fleabane, or quackgrass.

“From a resistance management standpoint, this is huge because you can use different modes of action in wheat than in a straight corn/soy rotation,” Johnson says. “Once the crop comes off, if I have problem

weeds, I can attack them in the fall and get much better control than in the spring.”

More information about manure stewardship and long-term nutrient management options is available at <https://www.farmfoodcareon.org/timing-matters/>. 

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