

Continued from previous page

Don't assume that the presence of ruts indicates subsoil compaction. Soils are most susceptible to compaction at water contents near field capacity because the proportion of soil pores filled with air and water is just right for compaction (soil consolidation) to occur. It seems counterintuitive, but soils with most of the pores filled with water are less susceptible to subsoil compaction. Recall that liquids are not compressible, unlike air, thus can bear an equipment load whereas air would allow for a pore space to collapse. However, soils near saturation are very prone to rutting and smearing near the surface.

If deep/subsoil compaction (deeper than 6") is detected, a sub-soiling or deep strip-tillage operation might be helpful. A cover crop would help here as well, but it will depend more on the growing season required for that cover crop and its root system's ability to penetrate the compacted layer. Freeze/thaw will not help for deep compaction (need the freeze/thaw cycles, similar to wetting/drying, to loosen the soil). There is a chance that a cover crop will help here, so it might pay off to monitor compaction this fall and again in the spring to determine if a deep tillage operation (e.g. sub-soiling or deep strip-till) is needed.

It is recommended for long-term no-tillage fields with ruts or other soil damage in localized spots in the field, to just target those areas with tillage if needed and leave the rest of the long-term no-tillage field alone. Soils in long-term no-tillage fields have a greater ability to "bounce" back than of conventional tillage managed soils. In general, soils should be allowed to dry before any other operations are implemented, if weather cooperates.

Access soybean program after challenging year

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The soybean harvest is here, and it is time to assess all the management strategies and hurdles that were thrown at us during a very challenging 2019 growing season.

Considering all the decisions made throughout the season, from variety and maturity selection to combine setup for harvesting, it will take steady management and decision-making skills to weather the storm (no pun intended) and plenty of blessings to get the crop to harvest.

So now that we are at harvest, consider the decisions made. Give yourself a pat on the back for making the right ones, and determine if a better one could have been made to offset challenges.

To start, assess the variety and maturity selected. A delayed planting season led many farmers to change varieties and earlier maturities.

Of course, we can never know when the first frost will come or how long the growing season will be, but we can still make good variety selections with data from several sources. Using sources such as the University of Wisconsin Soybean Variety Performance Trials is a good place to start to compare varieties and maturities when changes in selection need to be made. Were several bushels left on the decision-making table due to variety or maturity selection?

Another decision to assess is planting population. What did you plan for a final plant stand count, and are you in the ball park or not even in the stadium? Was the final stand count around 100,000, which is considered a high potential yield?

Assessing planting population and final plant stands at harvest is something that can lead to better decisions to increase yield and possibly save seed dollars, especially if planting populations are high.

What decisions were made regarding fertility? Now is the time to assess the total fertility program. Soil testing is the key. Have soil tests been pulled within the last four years?

Many fields across Wisconsin have seen reduced or low potassium levels. Consider that for every bushel of soybeans removed from the field, 1.4 pounds of K₂O is removed. So for example, a 50-bushel-per-acre yield results in 70 pounds of K₂O per acre pulled out of the field. Is this being replaced? Is more needed for 2020? Again, assessing at harvest how your fertility program performed is essential for next year's planning and budget.

Pest Management

Hopefully, pest management is something you are evaluating throughout the growing season. Plenty has been written and discussed regarding weed management and herbicide programs as they relate to resistance issues, especially in the case of waterhemp. As the combine rolls through the fields, are observations being made and notes taken of weed species and their locations in the field? Were insects scouted and thresholds monitored to help make decisions in 2019?

Harvest-time is the time to assess your overall pest management program. Consider diseases observed during the growing season. Is soybean cyst nematode an issue? Now is a great time to test for SCN to see if it is present and at what levels. A free sampling kit is available from the Wisconsin Soybean Marketing Board.

As the combine enters fields, is it set up correctly to manage the crop in the field? Combines can be operated to reduce losses without affecting the harvesting rate. Consider shatter losses of 2% acceptable, as more than 80% of the machine loss usually occurs at the gathering unit. With the soybean crop at the finish line, don't leave beans in the field due to improper setup of the harvesting equipment.

With the challenging growing season behind us and the harvest season in full swing, assess all decisions to determine if the right ones were made and to prepare for 2020.

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