K-STATE Research and Extension | Meadowlark District

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Soybean Inoculation

Like other crops, soybeans utilize nitrogen. We just don't apply it, instead letting the plant's biological fixation and nodulation processes take care of it. It's a process we take for granted, but shouldn't considering a 60-bushel soybean crop requires almost 300 pounds of nitrogen. Not only do we take for granted the nitrogen benefit fixation provides, but that the process will happen like it's supposed to. Unfortunately, that isn't always the case.

The instances are rare when soybeans planted in a field with soybeans in the regular rotation don't fix nitrogen correctly, but it can occur, with fertility and weather stresses the primary issues. Nodulation issues can occur when soil P levels are low, inhibiting N fixation as part of the plant's normal growth and development. Low pH levels do the same and high soil nitrate levels actually make the bacteria responsible for nodulation less competitive. Weather stresses are another issue. Drought stress on one hand or excessive soil moisture levels on the other contribute to reduced nodulation with high temperatures doing the same.

With most of the soybean crop in the ground or on its way, the choice to inoculate or not may be passed. What isn't passed is the chance to monitor fields for poor nodulation. Fields that deserve the most attention are those with pH levels below 6.0 or low P levels. If this weather pattern switches to higher temperatures, plant bacteria establishment can be affected, meaning some monitoring of nodulation might be helpful.

Start checking plants once they reach the second or third trifoliate leaf stage. Nodules should start to form at this point and can be evaluated to see if they are doing what they are supposed to. If nodulation failures occur, rescue nitrogen treatments may be helpful.

Dandelion Control in the Spring

Just about this time every spring, I kick myself for not doing a better job of broadleaf weed control last fall. It's easy to wait until you can see the problem to treat it, but in the case of dandelions, it just isn't effective.

In the fall, dandelion seeds germinate and start to grow. Those plants, combined with the ones already established, are what continue to result in weed issues year after year. The start they get in the fall makes them very difficult to control come spring time. Grass is growing and covering up foliage, preventing herbicide from reaching rosettes. Dandelion plants are well established and more difficult to kill with limited product reaching the key parts of the plant. Lots of other plants are also growing in the landscape in the spring, making herbicide applications a challenge, particularly with spring winds like we've experienced this year.

Your options right now are limited at best. Spot treating *might* do some good, but in many cases will not be nearly as effective (or easy) as it will be in fall. Unlike henbit and chickweed that die off when it gets hot, dandelions continue to bloom. Hand removal is possible, but time consuming, leaving mowing as your most effective option in many cases.

For best results, make a note on the calendar right now for mid-October, reminding yourself to implement your control program this fall. It won't make you feel much better this spring, but might make spring 2022 all the better.