TAKE INTO ACCOUNT UNIQUE FERTILITY NEEDS

SITUATION

Ensuring fertility is critical to maximizing sunflower yield and profit, but applying fertilizer improperly could result in crop damage and yield loss. Soil tests can help determine nutrient availability and deficiencies.

FACTORS TO CONSIDER

- Soil tests
- Nutrient needs
- Fertilizer applications

Sunflowers require 5 pounds of nitrogen (N) for every 100 pounds of production or yield goal.

ACTION PLAN

1. **Focus on soil tests.** Soil testing is crucial to determining nutrient levels. Sunflower roots are able to "mine" nutrients deeper into the soil than most crops, so testing can be done up to 4 feet to determine nutrient availability. Soil nutrient levels change with different crops, seasons and environmental conditions. As more time passes since the last soil test, it becomes more likely that conditions have changed. If an aggressive fertility program is in place for other crops in rotation, significant levels of deep nutrients may be available to sunflowers.

2. **Determine nutrient needs.** Yield goals should be realistic — within 200 pounds of the field's highest recorded yield. Sunflowers require 5 pounds of nitrogen (N) for every 100 pounds of production or yield goal. For example, an anticipated sunflower yield of 2,000 pounds requires 100 pounds of N per acre. However, do not over apply N. Excess nitrogen can reduce oil content and lead to tall plants with large leaves that are susceptible to lodging and disease. Sulfur, calcium, magnesium and boron are other nutrients that can be deficient. Sunflowers have shown little response to micronutrient application.

3. **Apply fertilizer carefully.** Starter fertilizer can be applied at planting. Applying more than 6 pounds of N with potash can result in injured seedlings and reduced stand. Dry soil conditions can increase chances for injury. To reduce risk, apply starter fertilizer 2 to 3 inches away from seeds. Warm soil conditions at planting reduce the need for starter fertilizer if sufficient N and phosphorus (P) levels remain. Do not apply N in the fall in sandy or coarse soils due to leaching potential. N also can be side-dressed before plants are 12 inches tall. Apply P and potassium (K) in the fall or spring and incorporate with tillage.

SUMMARY

Soil testing and establishing realistic yield goals are very important when establishing a fertility program for sunflowers. Following fertility recommendations will result in more profitable sunflower fields and reduce injury risk. For more information, contact your local Mycogen Seeds customer agronomist or trusted agronomic adviser.

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