



MICHIGAN SOYBEAN
PROMOTION COMMITTEE

a new release



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Contact: Mike Staton
MSU Extension CURE Soybean Educator
staton@msu.edu or at 269.673.0370

NOTE TO EDITOR: This is the final article in a four-part series provided by Mike Staton.

FALL VS. SPRING POTASSIUM APPLICATIONS PRIOR TO PLANTING SOYBEANS

Potassium is essential to producing high soybean yields. It has been shown to improve soybean nodulation and nitrogen fixation and reduce the severity of several soybean diseases and insects. If soil test reports recommend potassium fertilizer to reach your 2012 soybean yield goal, you need to decide when and how to apply the potassium.

Broadcast applications of potassium chloride are the least expensive and simplest way to supply potassium to soybeans. However, there is some confusion about the optimum timing for broadcasting potassium fertilizer. I've heard some producers say that potassium fertilizers should be applied in the fall to improve availability the following spring. There are two situations where this might be true, although I have not located supporting research. The first is when no-till soybeans will be planted the following spring. The fall application will allow more time for the fertilizer to move deeper into the root zone. Growers that plan to chisel plow their corn stalks in the fall may also want to apply their potassium in the fall. The chisel plow will incorporate the fertilizer uniformly throughout the soil to a depth equal to one half the chisel plow's operating depth. The deeper placement could prove beneficial if surface soils become dry and reduce potassium diffusion and uptake.

Fall applications are not recommended on some soil types due to the increased risk of leaching losses. Potassium fertilizers should not be applied in the fall to organic soils and coarse-textured soils having cation exchange capacities (CECs) less than 6 meq/100 gm. Plan to apply potassium fertilizer in the spring to these soils. For spring applications, the fertilizer should be applied prior to planting and incorporated with your primary (preferred) or secondary tillage when tilling the field. Surface applications are also effective in no-till situations.

In summary, fall potassium fertilizer applications do not have a documented agronomic advantage over spring applications but may be more practical and efficient than spring applications on finer-textured soils having CECs greater than 6 meq/100 gm. However spring applications are recommended for organic soils and coarse-textured soils having CECs less than 6 meq/100 gm.

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