

Table 1. Maximum recommended nutrient rates of starter fertilizer to be applied in direct contact with corn seed during planting at a row spacing of 30 in. Urea, UAN, and ammonium thiosulfate are not recommended for placement with the seed.

State	Max. rate of N+K ₂ O, lb/A	Notes
Iowa	10 5	Soils with adequate moisture, not sandy. Sandy and/or dry soils.
Illinois	13-16	Rate range is for normal moisture conditions. In excessively dry spring conditions, these rates may be too high.
Indiana	8 5	Soils with CEC > 8 Soils with CEC < 7
Minnesota	12-16	Information calculated from data in Table 5 (in the reference) for the 10 gal/A rate, assuming 11.2, 10.3, and 11.65 lb/gal densities for 7-21-7, 4-10-10, and 10-34-0, respectively. Rates are based on adequate moisture. If soils are dry at planting, some seed damage can occur at these rates.
South Dakota	10 5	Medium and finer textured soils with adequate moisture. For dry and/or sandy soils.
Wisconsin	10	For sources other than urea.

Banding during planting (starter).

Some N applied with or near the seed at planting provides a small supply of strategically-placed N early in the season. This can be especially important when the primary N application is banded between the rows. Plant root growth early in the season may not be extensive enough to reach this banded N, increasing the reliance on the N applied near the seed during planting. Placement in direct contact with seed limits the rates of N that can be applied (Table 1). It also carries higher risk of salt damage than placement a small distance from the seed, such as 2 in. to the side and 2 in. below (2x2).

Band applications other than starter.

Fertilizer N applied in bands can be applied mid-row as far apart as every other row.

Summary

The BMPs provided here for N use on corn represent general approaches used by many states in the Northcentral Region. Recommendations may vary for specific locations where more specialized BMPs exist.

For more detailed information and references pertaining to the BMPs described here, visit the Northcentral Region website at >www.ppi-ppic.org/northcentral<. The website also has a similar summary of BMPs outlined for phosphorus and potassium in corn production in the Northcentral Region. **BC**

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PKalc Software Checks Nutrient Balance

“**T**oolbox” is a feature on the PPI/PPIC website which holds free downloadable software tools for improved nutrient management. One useful tool is called PKalc (v.1.13), a simple balance calculator which helps

users determine if phosphorus (P) and potassium (K) nutrient additions are keeping up with removal by crops.

PKalc and other programs can be accessed for free at:

>www.ppi-ppic.org/toolbox< **BC**