

How much fertilizer can safely be placed with seed?

All fertilizers are salts and can cause germination problems if too much is placed with the seed. Too much fertilizer may inhibit germination completely, which results in a loss of stand. In other instances, too much fertilizer placed with the seed may simply delay germination, or it may result in weak seedlings with poorly developed root systems. In either case, the affected seedlings will be at a competitive disadvantage and a loss of yield potential may result.

Several points should be kept in mind when evaluating seed-placed fertilizer.

- The narrower the row spacing, the higher the nutrient rates per acre that may be safely used with the seed.
- The potential for injury from seed-applied fertilizer is greater for sandy and/or dry soils.
- Certain types of fertilizers should never be applied with the seed, even at low rates. No urea-containing fertilizer (urea, UAN solution) should be placed in direct seed contact. The hydrolysis of urea to ammonia can result in ammonia toxicity to seedlings.
- Reduce rates 25-30 percent for grain sorghum. We suggest no seed placed fertilizer for soybeans, sunflowers, or dry beans.

Maximum Amount of Fertilizer in Direct Contact with Corn and Wheat*

Row Spacing (in)	Medium - Fine Textured Soil	Sandy or Dry Soil
	Pounds of N+K ₂ O per Acre	
40	6	4
30	8	6
20	12	8
15	16	11
12	20	14
10	24	17
6 to 8	30	21

The amount of fertilizer N plus K₂O applied in direct seed contact should not exceed the values presented in the above table. These guidelines are relatively conservative. Some producers have gotten by with using higher rates at times. However, rates higher than those in this table have real potential for causing germination problems in some years.

It does not matter which phosphate source is utilized – germination damage may result if too much conventional fertilizer (11-52-0 or 10-34-0) is applied in direct seed contact. Likewise, germination damage may also result if “premium” or “orthophosphate” liquid phosphate products (9-18-9 or 6-18-18) are used.