

Anytime now for your N on corn

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A lot of energy is spent debating nitrogen (N) management for grain corn. This debate will continue since a 2017 survey of 100 Manitoba corn growers shows there is no single application method that predominates— there were 12 timing and placement options used.

The most common methods are fall banding or spring broadcast and tilled in. Now my observation is that fall applied N (about 30% of growers) predominates on heavier textured (clay) soils as they do not wish to do tillage before seeding in the spring. Spring application is more common for those on lighter textured soil, which may allow spring tillage, and might be more vulnerable to leaching losses.

With access to high clearance sprayers there has been growing interest in split N applications with mid season dribble UAN (28-0-0) following an earlier application in the fall or near seeding. In this survey of corn growers only a handful (4) were using this practice and another 5 were sidedress applying N.

So small plot research through University of Manitoba, Manitoba Agriculture and on-farm-testing through the MB Corn Growers Association evaluated N at seeding versus split applications. No differences were found between timings/splits in 25 of 27 small plot studies between 2016-2019. In 17 of 21 on-farm-tests there were no differences between seeding time versus split N.

The exceptions were:

- In 2 cases, withholding a major portion of N until the V9 stage (close to tasselling) reduced yield
- In one case, N applied at seeding time outyielded all other in-season applications
- in 2 cases the split application did increase yields.

In general, timing did not impact yields, which is good news. It means that we have a rather wide window to apply our N effectively for corn – and little reason to wait.

My suggestions are:

- If you have less than 1/3 of your N on before seeding, then don't delay the remaining portion. Apply while soils are fit.
- If you have 2/3 of the N already applied, then you have a window to V8 to make your split application.

I am a big fan of side dressing N by placing it between the corn rows below the soil surface. This avoids stranding N at the surface or volatilization losses. But a study we

had at Roseisle showed that poor injection closure of UAN had high volatilization loss. Therefore, whether using anhydrous ammonia or UAN, ensure that slots are shut. A variety of hardware from wings on shanks to closing disks can accomplish this (eg Figure 1). Note in the figure the skip-row configuration of this unit, ie N is applied in every second row, like a midrow bander. Corn can feed very nicely from one side of the row and this reduces horsepower and hardware.



Figure 1. Closing disks on ammonia shanks in side-dressed corn.