

Achieve Uniform Emergence

Many factors can be controlled to increase yield

Farming has evolved and become much more precise over the years. In the past, seeds were simply scattered or planted in rows, and the rest was left to Mother Nature. Today, farm operators closely monitor and control the planting and management of their crops—and they are seeing the yield benefits that come with more uniform emergence.

There are many tools at a farmer's disposal to help emergence. For example, farmers are managing stalks with chopping heads or stalk rolling attachments on the combine, ensuring that stalks don't interfere with the performance of your planter. Stalk interference has the potential to throw off emergence. Other tools and management practices are equally important in even emergence, and can also be controlled by the farmer.

Residue management



Residue managers are essential to creating the perfect seedbed.

Too much residue in the seedbed is never a good thing, which is why residue managers are essential to achieving uniform emergence. Residue managers push aside the residue that could get in the way of your seedlings and

prevent them from developing uniformly. Brad Freesmeier, a farmer in southeastern Iowa, currently uses row cleaners from Yetter on the 1,100 acres he farms.¹ According to Freesmeier, row cleaners are key to improving uniformity. Yetter Iowa Territory Manager Andy Thompson says many farmers in Iowa are placing more emphasis on uniform emergence every year.

Depth

Planting depth has a huge impact on root development as well as plant development, so a uniform seed depth is one of the key factors to promoting uniform emergence. Kirk

Reese, agronomy research manager for Pioneer Hi-Bred International, says, "In general, recommended corn planting depth ranges between 1.5 to 2 inches below the soil surface. Seed-to-soil contact is maximized when corn seed is planted at the recommended depth."² Emergence may be delayed with deeper planting, but corn will emerge more uniformly.

Starter fertilizer

The use of starter fertilizer jump starts growth, feeding the plant just what it needs while it is becoming established. Because of this, it is crucial to healthy emergence. There is a wide variety of starter fertilizer options available that can be tailored to your specific needs. Consult your local agronomist for a recommendation.

Soil testing can also play a crucial role in seed emergence. Refer to the November 20, 2012, issue of the *Leading Edge* for valuable information on soil testing.



A side-by-side comparison of a corn crop with and without application of starter fertilizer.

Seed-to-soil contact

Says Yetter Territory Manager Jared Head, "Think of soil like a blanket. If your seed is completely wrapped up in the soil, it'll sprout more consistently. Soil acts as a moisture conductor. The more contact, the more moisture is available to help the seed sprout." Investing in good closing wheels can help provide good seed-to-soil contact by closing the furrow. Closing wheels will crumble the soil and help firm it down around the seed.



Seed-to-soil contact and uniformity from seed to seed is always the goal when planting. Attachments such as residue managers and spike closing wheels help create the perfect seed-growing environment.

“Furrow management plays a bigger role in uniform emergence than most farmers realize,” says *Farm Journal* Field Agronomist Ken Ferrie. According to the *Farm Journal*, the type of closing wheel you should choose depends on four factors: “tillage system, soil texture, field conditions, and weather.”³

Even emergence positively affects yield

Though this list is not comprehensive, the above factors can be monitored and changed to help achieve more uniform seed emergence. For every 1,000 seeds that don't emerge or emerge unevenly, your yield can decrease up to seven bushels. From proper residue management to starter fertilizer to seed-to-soil, getting your crop off to the right start will pay off in the long run.

Endnotes

1 Freesmeier, Brad, Telephone interview, December 2012.

2 Reese, Kirk, “Get corn plants off to a good start,” *Ohio's Country Journal*, March 27, 2012, <<http://ocj.com/2012/03/get-corn-plants-off-to-a-good-start/>>, accessed January 21, 2013.

3 Fisher, M., “Closing in on the Seed,” February 7, 2013, <http://www.agweb.com/article/closing_in_on_the_seed/>.

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