

Evaluating Wide Row Seeding

Balancing the Risk and Benefits with Wide Row Direct Seeding Systems

Promotion of Wider Row Spacings

One of today's topics found in many agricultural publications is the promotion of wider row spacings for direct seeding systems. It is important when weighing the option of investing in a wider row spacing system to weigh the benefits against the risks in the wide range of seeding environments you may experience over the years.

Residue Clearance

Residue clearance is a reason why some seed drill manufacturers have gone to wider row spacings. Traditional single shank seeding systems allowed for good soil flow around the opener and shank, but dual-knife systems have one knife travelling offset behind the other, creating a catch point for straw and other residue to build up. Producers with dual-knife systems have at times resorted to aggressive harrowing, removing the straw, or burning in order to seed the next crop. The move to a wider row spacing for these seed drills was to improve residue flow through the frame.

Soil Disturbance

A wider row spacing may be a benefit in traditionally dry regions to reduce soil disturbance, if the opener itself maintains lower soil disruption. Openers with a wider profile, such as dual-knife or double-shoot side-banding systems create more disturbance than a narrow single-shoot opener. The moisture loss resulting from these systems can be detrimental to the emerging plants, especially in areas that are typically short of rainfall. Placing those same side-band openers on a wider row spacing will reduce the net amount of seedbed disturbance, but will reduce seed bed utilization as well.

In regions with excessive spring moisture, there can be a benefit of systems which "blacken" the seed row, promoting evaporation.

Direct Seeding Research

One research paper cited quite often to promote wider row spacing is "Row Spacing: Making It Work For You ..." by Dr. Guy Lafond, agrologist with the Indian Head Experimental Farm. The study conducted between 1989 and 1992 states that increased row spacing does not lead to yield reduction. But what is neglected too often is that the ammonium nitrate fertilizer was broadcast applied early in the spring. This report, though useful does not accurately portray one-pass conditions, since it was not a same-time application of all the seed and fertilizer.

In contrast, other research conducted on the effects of row spacing in a one-pass seeding operation has shown different results. "Investigation into Row Spacing with Direct Seeded Canola and Wheat - RL0498B - November 1999" conducted by the Alberta Farm Machinery Research Centre showed that an increase in row spacing demonstrated a decrease in emergence and yield for both canola and wheat.

The Semiarid Prairie Agricultural Research Centre in Swift Current published a research newsletter (#34, December 6th, 1996) titled "Wide Row Spacings are Risky in the Semiarid Prairie" by Brian McConkey and Perry Miller. Their tests comparing 8" to 12" row spacing with a paired row opener. "The results for 1995 and 1996 showed there was a high risk

of obtaining more than a 10% yield loss when a narrow seed spread is used on a 12" spacing [compared to the 8" spacing]."

A study conducted by Doug Derksen in 1996-1998 set out to answer several questions, including if narrow or wide row spacing was the best choice for a one-pass seeding system. The test was done with a dual-knife system that separated the nitrogen 1" to the side and 1" below the seed. Testing found that for both plant stand and grain yield the 12" tests were typically worse than the 9" tests, and the 12" spaced tests were never better than 9" spaced tests.

Variable Rate Technology

Variable Rate Technology brings another element of risk for wider row spacing. It is not unusual to see prescription maps call for over 150 lbs./acre of N in specific zones. Those planning to couple VRT with side-banding may subject their crops to an extremely hot environment at various points in the field. Widening the row spacing on a side-banding unit will only increase the concentration of fertilizer and therefore increase the risk of seedling damage.

Cost vs. Investment

A system with less openers per foot reduces the initial price of the seeding system. However, studies have shown that one-pass systems with wider row spacing have a greater risk of reduced yield than narrow

spacing. Systems with a lower initial cost may increase the Producer's risk for profit over the long run. Even a one bushel per acre loss, averaged at \$4.00/bushel on 2500 acres over 5 years results in \$50,000 lost revenue. To date, over 95% of Bourgault seeding systems are sold on a 10" spaced platform in comparison to the 12" spacing option. This speaks volumes towards the requirements of the majority of producers in a one-pass seeding tool.

Resale value is also an important consideration when selecting seeding systems. For many years, Bourgault systems have provided consistently higher resale values due to Bourgault's commitment to producing

durable, high-quality equipment, designed to work with the agrology of farming.

Making Wider Spacings Safer

With Bourgault direct seeding systems, producers have the ability to widen row spacings yet minimize risk. As opposed to side-banding systems, farmers can select from a variety of openers along with wider rows to achieve desired seedbed utilization. Wider openers will create more disturbance, but will also reduce in-row plant competition, and reduce the width between the rows, improving plant competition with weeds.

Bourgault Mid Row Banders® are the best investment to maintain seed safety and maximize fertilizer investment, regardless of row spacing. Producers can configure the Bourgault seeding system to put the majority or all of the nitrogen fertilizer in the mid row, and starter fertilizer in the seed row. Not only are the seedlings protected from the harmful initial effects of the nitrogen, but the access to the fertilizer is optimized for the maximum benefit to the crop.

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