

THE LEADING EDGE

www.yetterco.com · Yetter Manufacturing Inc · E-mail:info@yetterco.com

A PUBLICATION DEDICATED TO MAXIMIZING YIELD POTENTIAL

Proper Closing Wheels a Must This Spring

Floods in 2008 made for challenging planting conditions that led to poor stand counts, uneven emergence, and even some replanting. The residual effects of that wet weather will be battled by producers throughout the 2009 planting season.

Less-than-ideal soil conditions in early spring are possible after the weather of 2008. The potential for a yield-robbing repeat of 2008's stand and emergence problems could exist and growers need to look at ways to improve them.

Waiting for soil to improve on its own is not the answer producers are looking for—the earlier planting occurs, the higher the yield. Contending with these adverse conditions and getting in fields as early as possible is a must.

Equipment and planter settings are important to help producers prepare the perfect seedbed in wet soil conditions. Making the right choices provides growers the edge needed to combat difficulties that occur in wet soil:

excessive compaction, poor seed-to-soil contact, poor seed trench closing, and soil build-up on gauge wheels. The right equipment and planter settings also help prevent trench re-opening and soil crusting.

Planting into wet conditions can lead to sidewall compaction, often caused by excessive down pressure, disc openers leaving a true V-trench with smeared sides, and too much closing wheel pressure.

Sidewall compaction hurts growing seeds because it results in inadequate space for roots to develop in a healthy manner. If the seed trench has compacted sidewalls, soil cannot close in around the seed, resulting in poor



In many no-till conditions two spike closing wheels and a drag chain has proven to provide the best seed-trench closing option.

seed-to-soil contact.

Growing roots are impacted significantly by sidewall compaction. Lateral growth and oxygen availability is limited and roots have problems penetrating the packed soil. Slow root growth and poor exploration lead to potassium and nitrogen deficiencies as the plant grows because not as much nutrient-rich soil is in contact with roots.

Even with the right closing wheel, downforce should be adjusted to account for soil type and condition. In general, downforce can be set in the low- to mid-range for adequate closing pressure.

Spike-closing wheels are an effective alternative for producers. Smooth wheels set with too much downforce will pack the soil over the seed. In no-till, and min-till situations, the soil of the sidewall must be loosened. Spike closing wheels fracture the soil. Even with the right closing wheel, downforce should be adjusted to account for soil type and condition.

In general, downforce can be set in the low- to mid-range for adequate closing pressure. Growers should not let the desire to plant early interfere with good judgment. To plant, soil temperature should be 50 degrees, or be rapidly increasing to that mark. providing ideal seed-to-soil contact and promoting uniform emergence and even plant stands.

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Avoiding soil compaction has another benefit. As compressed soil dries, it is more likely to and open the seed trench than loosely packed soil. An open seed trench contributes to poor germination and emergence.

Successfully closing the seed trench with noncompacted soil is achievable in wet planting conditions. For best results, the seed trench should be closed using residue-free soil, which eliminates the chance for air pockets. This can be accomplished by using a row cleaner and closing wheels best matched for the soil conditions. The correct closing wheel configurations will ensure that the loose soil around the seed is utilized in trench closing.



Some planting conditions find one spike closing wheel and one press wheel to provide proper

In heavier, wetter soils, like 2008, a spike-closing wheel is a solution to closing the trench. A spike wheel on one or both sides of the row will help

achieve proper closing.

seed-trench

Spike wheels on the market today have teeth that lift and crumble the soil as they exit the seed trench. This action leaves loose soil above the seed for optimum seed trench closing. An optional drag chain can be used to level the crumbled soil. No technique or fertilizer can rescue crops from the effects of improper closing procedures, and few practices have been proven to boost yields as much as early planting. Spike-closing wheels ensure effective seed trench closing and make earlier planting dates a possibility, even in less than ideal planting conditions.

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Yetter Manufacturing Co., Inc.
109 S. McDonough
Colchester, Illinois 62326
Phone: 800-447-5777
FAX: 309-776-3222
www.yetterco.com
E-mail: info@yetterco.com



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