



# Conservation Systems Research

## Modifying In-Row Subsoilers and Planters for High-Residue Systems

CONSERVATION SYSTEMS FACT SHEET NO. 03

### In-Row Subsoilers Modifications

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#### Toolbar Extension

Ensures coulter is running on firm ground ahead of the shank. This helps cut any residue present and minimizes residue dragging.

#### Splitter Points

Weld a piece of metal (an old peanut blade) perpendicular to the center of the subsoil shank tip.

Helps prevent soil blow-out (especially drier soils). Some newer shanks incorporate this design.



#### Cover Sharp Edges

Allows tall residue to flow past equipment. Can minimize *wrapping-up*.

#### Polyshields

Effective in heavy, wetter soils. Prevents soil build-up on shanks, which leads to *blow out*.



#### Row Cleaners

Possible alternative to row cleaners on planters. Currently offered by KMC, Remlinger Mfg. Co., and Yetter.



Equipment Option	Price
	--- \$/row ---
Splitter points	29
Polyshields (cover & shin)	90
Row cleaners	425
Prices current as of 7/13/15	



# Planter Modifications



## Down-Pressure Springs

Prevents excessive bouncing of planter units in heavy residue and uneven soil conditions to maintain desired seeding depth.

## Row Cleaners

Various manufacturers, configurations, and methods of adjustments.

Help level seedbed and move residue away from seed trench to prevent *hairpinning*, which decreases seed emergence.

When set too aggressively, digs out seed bed and promotes weed seed germination in the row

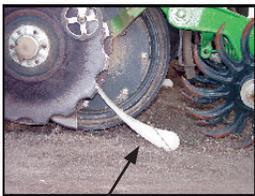
Martin



Dawn



Yetter



Seed firmer

Cotton seed on top of the ground



## Notched Opening Disks/Seed Firmers

Notched opening disks cut residue not removed by row cleaners to prevent *hairpinning*.

Seed firmers ensure good seed-to-soil contact and prevent seed from bouncing out of the seed trench when planting shallow (i.e. cotton) in high residue or uneven soil conditions.

## Spoke Closing Wheels

Beneficial for heavy, wet soils to prevent surface sealing (crusting) following planting.

Use caution when planting shallow. May kick seed on top of ground. Also may use only one per row to minimize this problem.



Equipment Option	----- Price -----	
	Low-end	High-end
	----- \$/row -----	
Down pressure springs*	43	----
Row cleaners*	274 (Yetter)	665 (Dawn)
Spoke closing wheels*	129	270
V-slice inserts	36	----
Notched disc openers	168	----
Seed firmer	31.50	----
*Highly recommended		
Prices current as of 7/13/15		