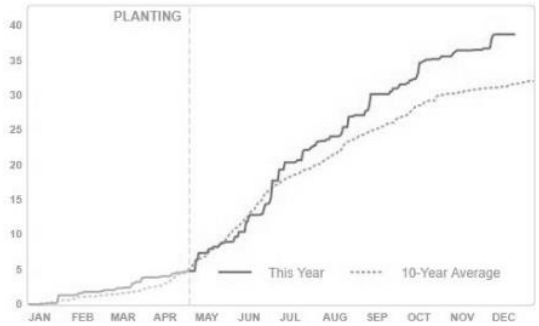
Impact of Planting Corn with Active Down Force versus Constant Down Force on Corn Yield

Study ID: 0085141201803
County: Platte
Soil Type: Grigston silt loam wet sub-stratum
Planting Date: 4/27/18
Harvest Date: 10/30/18
Population: 41,200
Row Spacing (in): 30
Hybrid: Dekalb® DKC 63-21
Reps: 7 (3 for stand counts)
Previous Crop: Corn
Tillage: Ridge-Till
Herbicides: ***Pre:*** 2 qt/ac Degree Extra®, 40 oz/ac Roundup®, and 6 oz/ac Sterling Blue® in mid-May ***Post:*** 56 oz/ac Halex®, 1 pt/ac Atrazine, and 16 oz/ac Roundup® in mid-June
Seed Treatment: Acceleron® Basic 500
Foliar Insecticides: None
Foliar Fungicides: None

Fertilizer: 100 lb/ac Urea, 50 lb/ac K-Mag®, and 25 lb/ac Potash on 4/10/18; 5 gal/ac Kugler 6-24-6-1S with 1 pt/ac Micro Max® in-furrow and 5 gal/ac ATS and 5 gal/ac 32% UAN on 4/27/18; 160 lb/ac N from NH3 sidedress on 6/4/18
Irrigation: Gravity, Total: 2”
Rainfall (in):



Introduction: The purpose of this study was to evaluate Precision Planting® DeltaForce active depth control versus a constant down force. The DeltaForce averaged around 90 lb while the constant down force was set at 180 lb.

Results:

	Stand Count (plants/ac)	Moisture (%)	Yield† (bu/acre)
Constant Downforce	36,167 A*	15.3 A	274 A
Active Downforce	36,722 A	15.2 B	275 A
P-Value	0.214	0.004	0.327

*Values with the same letter are not significantly different at a 90% confidence level.
†Yield values are from cleaned yield monitor data. Bushels per acre corrected to 15.5% moisture.

Summary:

- There was no difference in stand counts or yield between the traditional, constant down force and the Precision Planting® DeltaForce down force.
- No marginal net return calculation is provided for the DeltaForce units as this depends on the number of acres the system is used on and the number of years this cost is spread over. The cost for an individual row unit is around $1,500.

Sponsored by: **In Partnership with:**