Evaluation of Precision Planting Technologies in Cotton

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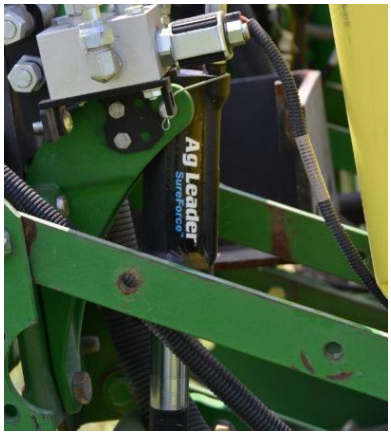
I. Seed metering - Electric Drives (retrofit kits)

AgLeader SureDrive
http://www.agleader.com/products/seedcommand/sure-drives/

Precision Planting Vdrive
https://www.precisionplanting.com/products/product/vdrive

II. Seeding depth control - Variable up/down force



AgLeader SureForce (hydraulic)
http://www.agleader.com/products/seedcommand/sureforce/

Precision Planting AirForce (pneumatic)
https://www.precisionplanting.com/products/product/airforce

III. HMI Controller (in-cab display or app-based remote access)

AgLeader SeedCommand
http://www.agleader.com/products/seedcommand/

Precision Planting 20/20 SeedSense
https://www.precisionplanting.com/products/product/2020

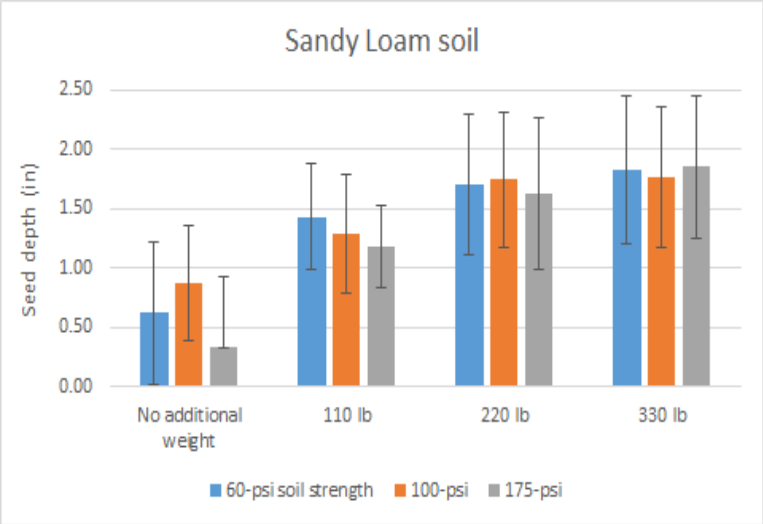
Performance testing of planter downward force under different soil conditions at the UA Maricopa Agricultural Center
A CottonInc funded project for 2019 season

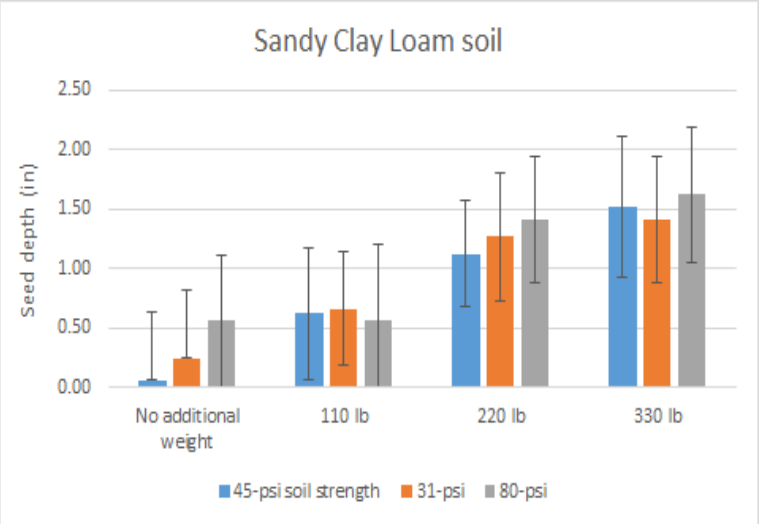
Experimental work carried out on wet soil on the flat using a with 4-row John Deere MaxEmerge-5 without soil firming hardware. Speed of operation and seed depth settings were held constant

A) Two soil types:
   a. Sandy Loam (Field 3)
   b. Sandy Clay Loam (Field 4)

B) Three soil strength conditions of top 3 inches at time of planting:
   a. Field 3: 60, 100, 175 psi
   b. Field 4: 45, 31, 80 psi

C) Four additional downward force levels (0, 110, 220, 330 lb)





D) Planter depth settings:
   a. Field 3. 2¼", actual depth of trench = 1 3/4" (+/- 1/4")
   b. Field 4. 2", actual depth of trench = 1 5/8" (+/- 1/4")