The Agricultural Engineering 50

Outstanding innovations in product or systems technology

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Congratulations!

Your firm's mulch-type seed planter won a coveted spot among "The Agricultural Engineering 50" outstanding innovations in product or systems technology for 1987.

This is indeed a distinctive honor. Of the hundreds of developments entered in this year's competition, "The AE 50" panel of jurists was quite decisive in selecting your technological development for recognition.

The first -- and perhaps the most significant -- form of recognition will be editorial presentation of your new mulch-type seed planter in a special section of Agricultural Engineering's September/October issue.

I'm sure you will be pleased with our forthcoming issue's innovative development section entitled "Saluting the AE 50."

Best wishes for
continued success,

Mark D. Zimmerman

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Editor -- AE Magazine

Mulch-Piercing Injector Plants Seed-Bearing Plugs

Pneumatic seed-metering devices and reciprocating plug-placement mechanisms are used in vegetable planters developed by Renaldo's Sales and Service Inc., North Collins, NY (716-337-3760). Designed for fresh-market production areas, the bed-straddling machines possess several distinctive design features:

• Seed Singulator—Vegetable seeds flow against an inclined seed pick-up plate. Located inside a metering chamber next to a pressurized seed cannister, the rotating plate aligns seed-filled cells with a pressurized port for discharge through a pneumatic hose.

• Fluidized Material—The particulate material often combined with seed in a plug-like module is carried in a separate hopper. A measured amount of this material goes into a high-pressure line, which fluidizes seed/mix material enroute to a cup-like chamber.

• Injector Mechanism—Both seed and material are delivered to a plug-forming chamber at the lower portion of a reciprocating injector. This jaw-tipped apparatus punches down through the plastic, allows the hinged jaws to open, and then retracts upward.

• Plunger Device—Inside the hollow injector is a plunger that pushes against the metered mixture so as to force open the jaws and expel the seed-mix plug. This fully extended plunger momentarily keeps pressing a plug into the soil after injector withdrawal.

• Gauge Wheels—Fore and aft pivot links are equipped with dual gauge wheels that roll along a bed's plastic covering, support the injector and feeder mechanisms, and function within an adjustable floating system that regulates overall down pressure.

Raised seedbeds encased with plastic sheeting accommodate a second-crop planting of plain cucumber seeds into depleted tomato beds (far right). All other photos show the Renaldo-developed machine injecting into new beds a punch-and-place series of plugs containing pepper seed, mix material, and fertilizer. ■