Seed Metering System and Apparatus for Precision Planting of Seed

Invention: This invention is a novel seed planter unit that provides consistent and accurate seed spacing during planting.

Background: Currently available seed planters have allowed farmers to plant entire fields in a fraction of the time that was previously required. However, presently available planters have problems regarding the speed and height of seed drop, which lead to inconsistent seed spacing. Although it is well known that reducing the relative velocity between the seed and the soil surface improves seed spacing uniformity, the seed to soil relative velocity of current precision planters is high. Further, conventional planters typically release seed about 2.5 inches above the soil surface. These high relative velocities in the horizontal and vertical directions cause the seed to bounce and roll on the soil surface, resulting in poor seed spacing accuracy.

Applications: This technology could be applied to improve existing seed planting devices, or could be used to construct a new seed planter. This technology minimizes the relative velocity and vertical distance between the seed and soil surface during planting. As a result, the technology limits the amount of “bounce and roll” once the seed hits the ground – thus allowing for more consistent and accurate seed spacing in the field. This technology has utility for any crop that is planted with singular seed.

Advantages: The primary benefit of this technology is that it offers a seed planter that provides consistent and accurate seed spacing during planting, reducing relative speed and soil to 1/3rd that of conventional planters. This technology may allow over 90% of the seeds to be placed within 0.5 inches of the target spacing. Increased planting efficiency may both reduce planting time and provide for higher crop yields for farmers.

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Inventor(s): Mark C. Siemens and Ronald R. Gayler

Licensing Manager: Tod McCauley

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Inventors

Mark Siemens
Associate Specialist, Yuma Agriculture Center

Ronald Gayler
Staff Technician, Yuma Agriculture Center