

Lee Arbuckle, Presenter

“Plucking Difficult to Harvest Native Grass Seed,” International Conference on Crop Harvesting & Processing, American Society of Agricultural & Biological Engineers (ASABE); February 11-14, 2007, Louisville, KY

Abstract:

Annually millions of acres of grass lands are restored with sustainable native species for erosion control, to provide forage for livestock and wildlife, and to reclaim land damaged by fire, mining, construction, and so forth. Many desired species are unavailable or very high priced.

The Arbuckle Native Seedster was developed to harvest seed of difficult-to-harvest native grass species to mount on farm tractors. Cooperating brush and combs “pluck” seed. The plant is left intact. Seed pneumatically engaged in flight is deposited in off-loadable bags. Brush and combs are quickly reconfigured to change species, and rpm calibrates on the go.

Lee Arbuckle discovered the patented dislodgement technology. Key support came from four USDA Small Business Innovation and Research Phase I/II grants to Arbuckle Ranch, Inc.

Native grass seed is harvested by combines and strippers. The Seedster is neither. Plucking pure seed obviates separation and permits faster ground speed than combines. Positive engagement of seed heads in the brush comb pinch point recovers much more seed than strippers. The technology has application to specialty crops.

Conventional technologies find native grass species with panicle inflorescences difficult to harvest in the steps of dislodgement, separation, conveyance, or off-loading, because of awns, size, or tendency to cohere.

High speed digital video (HSV) accelerated product development by efficiently validating design assumptions and revealing unexpected flow patterns and optimal shapes. HSV at 1,000 frames/sec captured 50 ft/sec motion. Immediate on screen review permitted adaptive experiments in shop and field tests.

The Native Seedsters technology meets customer needs to effectively harvest difficult-to-harvest species. Increased seed recovery and faster ground speed make the Seedster an attractive investment. Seedster technology will broaden the spectrum of grasses available to restore healthy grassland. [www.nativeseedsters.com](http://www.nativeseedsters.com)