

IMPROVED GINNING EFFICIENCY WITH THE POWER ROLL GIN STAND

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Abstract

The Power Roll Gin Stand is a new gin stand design developed by USDA-ARS and being rolled out to the market. Conversions have been developed and work continues to refine the technology for operation with each of the major models of gin stands being used in commercial gins. This more efficient design improves every aspect of ginning, most notably capacity and turnout. Compared to conventional gin stands, turnout increases are achieved in the range of 10 to 50 additional pounds per bale. Ginning capacity is consistently improved, usually in the range of 2 to 3 additional bales per hour while often limited by another part of the gin. Improvement in fiber characteristics such as length, uniformity and reduction in short fiber content are possible. Consistency of ginning is improved, especially when ginning wet cotton. Significant results have been exhibited in gins across the cotton belt.

Unique new design

The Power Roll Gin Stand is a revolutionary redesign of the cotton gin stand. The huller front is eliminated and cotton drops directly into the seed roll box and is turned by paddle roll. This paddle roll does a better job of bringing the cotton into contact with the saw and runs with significantly more load than other devices which have been used in roll boxes in the past such as agitators and seed tubes. Seed fingers rotate in the same direction as the saw and run between each individual saw (traveling in the opposite direction at the point of contact) to control the rate of seed passage between the gin saws and discharge from the gin stand

PADDLE ROLL IN ROLL BOX:

SEED FINGERS:





This new design can be used in the construction of new gin stands as well as constructing kits to retrofit existing gin stands. It is currently being offered as an adaptation to modify existing gin stands.

Converting existing gin stands to this design involves installing a new front which contains the key components of the paddle roll and seed finger roll as well as the electronic control system.

It was developed by the U.S.D.A. Agriculture Research Service as an outgrowth of research done to develop the Easi Flo™ cottonseed technology and was patented by USDA in May, 2000.

It is being marketed by PRT Marketing, LLC under a marketing license agreement with USDA.

Benefits

The benefits that this new technology offers:

INCREASES TURNOUT!

- USDA tests have repeatedly shown 20 to 30 more pounds per bale through better seed cleaning

INCREASES CAPACITY!

- significantly increases capacity on most models of gin stands

PRESERVES FIBER!

- consistently shows slight improvements in fiber length, uniformity, and short fiber content

CONSISTENT GINNING!

- gins through wet cotton when other stands choke

Currently Available Models:

This new technology is still under development with the goal of being offered for every gin stand currently being used by significant numbers of gins. It is currently being made available for the following models of gin stands:

Continental 141:



Continental 161:



Lummus 158:



Consolidated 164:



Murray 142/18:



Development is yet to come for the models: Lummus 170, Consolidated 198, and possibly others.

Customer Testimonials

What ginner says about the Power Roll Gin Stand:

“It’s the ONLY GIN STAND THAT SHOULD BE MADE. It does the job!”

- Scott Sonnenberg - Miles Coop Gin - Miles, Texas

“THE GREATEST TECHNOLOGICAL ADVANCE IN THE COTTON GINNING INDUSTRY IN FORTY YEARS!!!”

- Tim Currie – Frank Currie Gin – McCullough, Alabama

“I think the Power Roll has huge potential in the gin business.”

- Francis Kern - McClendon, Mann, and Felton Gin Co. - Marianna, Arkansas

"Running like a champ! The only gin stand we don't have to worry about. Our most trouble-free item in the gin."

- John Engel – Farmers Gin - Palacios, Texas

"If they didn't do anything other than maintain the status quo on turnout, fiber quality, and capacity they would be worth running just for the EASE OF GINNING. They just run all day long without us having to mess with them. I'm proud to say that we have always done the best job we can of ginning our customers cotton but the Power Roll HAS ALLOWED US TO DO BETTER THAN WE EVER COULD BEFORE."

- Fred Couch, Rabbit Ridge Gin, Lepanto, Arkansas

"They ginned cotton as advertised. Our turnouts went up immediately. You could catch samples of seed and visually see the difference between our old 141 Continentals and the Power Rolls. We believe in the units and believe that they have a future in the cotton industry."

- Harold Gaines - MADH Gin - Selma, Alabama

"We've seen our average daily ginning volumes increase by 50-70 bales per day. 750-800 bales per day is becoming an expectation, not an exception. These stands are fairly simple from a mechanical standpoint. Once they get 'slicked' up, they just run.

The amount of additional lint that was captured by this gin stand was almost unbelievable. This technology provides additional turnout while maintaining fiber quality, and should be considered by every gin in the country.

- James Askew - Servico Inc. - Courtland, Alabama

It's Getting The Seed Cleaner While Ginning A Lot More Cotton. Besides That, Just Not Having To Mess With It Is Worth Something"

- Bill Hillburn – Farmers Gin - Palacios, Texas