

THIS MACHINE BLOWS HULLS!

The retail nursery industry is very competitive and depends on quality product. If you've ever been to a Lowe's "bargain bin" plant section, you'll understand. A significant amount of those sad, drooping plants marked at \$3.00 just don't last very long in small containers.

With that in mind, Tom Knuth decided to do something about it. A former Design Engineer for John Deere, Tom has a plethora of knowledge of the Ag industry, gaining a patent on Deere's Quik Knect PTO drive system, which won an [AE50 award](#) in 2020 for agricultural product innovation. In his new career, Tom found shortcomings in how wholesale nursery growers were mulching container.

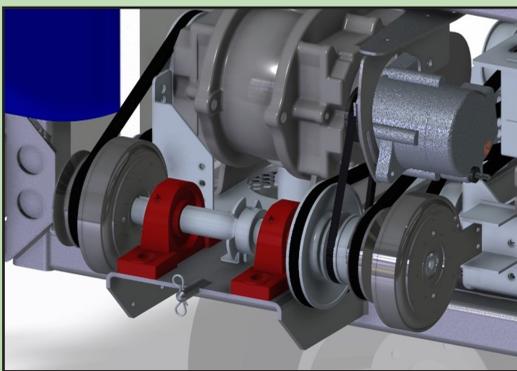
Enter the company StiltPro. Parlaying his experience in ag, he designed a machine to top dress the containers in the field (at the grower's location), allowing for more expedient application of the rice hulls while reducing herbicide usage and allowing use of chemical free weed protection.

His design – the rice hull blower. The machine feeds rice husks from a hopper through a flexible hose and allows dispensing to a precise location, in this case typically a 3-gallon container. The hulls are fed through a rotary airlock. As the veins in the airlock rotate, the hulls are carried to the bottom of the airlock and fall into a pressurized air stream. A diffuser at the end of the hose slows the flow of the hulls so they fall into the container rather than blowing them out at a high rate of speed.

During the design process, Tom needed a way to regulate both the feeding of the hulls to the airlock and controlling the blower independently. The dispensing requires stopping and starting frequently when operating the machine, and an electric clutch specifically



Worker blowing rice hulls at nursery



Ogura clutch controlling air flow

offers the advantage of integrating nicely with a control system. It allows for a reliable method of turning the system on and off via a remote or pushbutton. Tom came to Ogura with clear specifications for the system. After careful evaluation, the General Purpose clutch MA-7FS1 was chosen to complete both tasks. Mounted on an independent bearing mounted shaft, the first clutch receives its input from the main drive and transfers power through a pulley to the airlock, turning the feed system on and off. The clutch shaft, while still rotating, allows for independent control of the air blower with a second FS1 mounted at the other end. Tom attributes the successful implementation of the design toward attention to detail. He said, "Ogura provided clear documentation of the product offering with enough detail to understand the capabilities of the product". "Ogura was also helpful in the development, and willing to work with a smaller company not necessarily buy-

ing truckloads of product." With the first number of machines now working in the fields, it is likely that StiltPro may not be a "smaller company" for long.

For more on the innovative Rice Hull Blower and StiltPro, visit www.stiltpro.com.

To learn more about the Ogura General Purpose line of clutches and our complete line of electromagnetic clutches and brakes, visit www.ogura-clutch.com. •