

Cutting Edge Pellet-Making Machines

A Wisconsin family that has a lot of experience with feed mill equipment, has turned their focus to farm-sized pellet mills. They say their latest new mills may be the best biomass pelletizers they've seen.

David and Jode Siedschlag of Waupun, Wis., are dealers for several brands of pellet mills and related equipment - including Pellet Pros - but they're really excited about the new Tiger Tec pellet mills that recently arrived from China.

"We've been making tons of pellets from various products with Tiger Tec's 7 1/2 hp household model for almost a year, so we know first hand how well it works. It has held up very well. We're confident the company's 20 and 30 horsepower models, which we just received, will work just as well," says David. "The price range is a bit higher than other pelletizers, but we feel they're worth it."

The Siedschlags' use the Tiger Tec 7 1/2 hp, 3-phase model to make pellets to heat their own home. They also use a Pellet Pros PP600, which is a 10 hp single phase model that works equally well on some products, but not as well on others. They do demonstrations with several models so people can see the differences between machines.

"There's a lot of interest in the higher production pellet-making mills but, until now, we haven't found a price-effective mill that does the job well. We've tried three other makes and models in the 30 to 40 hp range including our Pellet Pros PP2800, but each have had their own problems," says David. "For now, we mainly focus on selling Pellet Pros 10 hp electric and 15 hp diesel models while we work on revisions to our 40 hp demo model that we currently have set up in our shop."

"The new line of Tiger Tec pellet mills is geared down to run slower and have more torque than other models. The design is

different than other pelletizers we've used. One big advantage we've found is that there's not as much need to add a binder, such as soybeans or corn starch. That's an important issue, because a binder adds to the total cost of making pellets. Overall, we feel the Tiger Tec does a better job making pellets out of straight sawdust, due to its quality and design.

"We've made pellets out of all kinds of material including leaves, old hay, grass clippings, newspapers, cardboard, even horse manure and sewer sludge," says Jode. "Some people have even brought us secret products they don't want others to know about which is kind of fun. Recently someone brought us apple pulp to pelletize but we still have to find an efficient way to dry products like these. We don't have a large source of dry sawdust in our area at this time, and since green sawdust just doesn't pelletize, developing a drying system is an important piece of the system for us to work on."

The couple is in the process of setting up a fully automated pellet-making plant in their shop. It will include a 60 hp phase converter so they can operate the new 20 and 30 hp Tiger Tec models. Their goal is to make 800 to 1,000 lbs. per hour of pellets with the automated setup. Their main product for the larger scale automated plant will be corn stalks, but they'll also be trying out a semi-load of switchgrass.

The system currently consists of a tub grinder, hammer mill, screener, and self-unloading wagons that store various ground-up materials. The materials are fed into a farm mixer and then to the pellet mill. A home-built counterflow cooler is used to cool the pellets down before being elevated into hopper bins for storage.

"Having more than one wagon," says David, "allows us to have different products so we can make a blended pellet if we choose to. Our goal is to end up with an inexpensive



Pellets shown above were made by Tiger Tec's 7 1/2 hp. pellet mill (right). It's geared down to run slower and has more torque than other similar-size pelletizers.



pellet-making plant that's as automated as possible. Another goal is to make people aware of the differences in pellet stoves, especially in attempting to burn biomass pellets with high ash or silica content. Some stoves just can't handle certain pellets efficiently."

The Siedschlags put a lot of emphasis on educating customers so they occasionally sponsor demonstration days or open houses. "We want people to know that making pellets is more of an art than a science, and there's definitely a learning curve to the process. Pellet making in these smaller mills is not as simple as it may seem at first," says Jode. "You can buy pellet-making mills on eBay, but you won't get much followup service. Our Tiger Tec importer carefully checks out the manufacturer and attends demonstrations to try to ensure we're consistently getting the highest quality equipment at reasonable prices, rather than dealing with trading companies. We're really happy with the priority that's put on helping us dealers provide service after the sale. We don't want to lead anyone astray just to make a sale. We want satisfied customers."

One drawback with Tiger Tec models is that they currently aren't available with single phase motors, so you need either a rotary phase converter or 3-phase power.



The Siedschlags recently set up a farm-sized pellet plant in their shop which includes a tub grinder, hammer mill, screener, and self-unloading wagons. Their goal is to automatically make 800 to 1,000 lbs. of pellets per hour.

"We have new rotary phase converters that sell for \$700. Some customers have made their own rotary phase converters," says David.

The 7 1/2 hp Tiger Tec model sells for \$5,950. The new 20 hp Tiger Tec model sells for \$12,250, and the 30 hp Tiger Tec model sells for \$17,525.

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Bale spear fits into 2-in. receiver hitch welded to top of bucket.

Bucket-Mounted Front Bale Spear

"I can install this bale spear on my loader bucket in seconds. No need to take off the bucket," says Terrell Pahl, Hamilton, Ohio, about the bucket-mounted bale spear he built that doubles as a pallet mover.

A 2-in. receiver hitch welds to the top of the bucket and a length of 3-in. angle iron fits against the lip of the bucket. That's all that's needed to hold the bale spear in place.

Two small spears are welded to the lower end of the T-shaped bracket. A larger, removable spear fits into a hole near the top.

To use the unit as a pallet mover, Pahl simply unbolts the bale spear and uses the two smaller bale spears as forks.

He can use the receiver hitch on top of the bucket to move trailers by inserting a standard drawbar.



The two small lower spears allow unit to also be used as a pallet mover.

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Mirrors are bolted to a length of angle iron that extends across top of tractor cab.

"Full Vision" Rear View Tractor Mirrors

Jerry Allen, Perry, Iowa, mounted a pair of big truck mirrors on his Deere 4640's tractor cab so he can see around wagons and wide equipment.

The mirrors are bolted to a length of angle iron that extends horizontally across the top of the tractor cab. He drilled holes in the angle iron and installed spacers to keep from denting the cab's plastic material. The top and bottom of each mirror is bolted to a vertical length of angle iron. A metal brace extends from each mirror down to the side of the tractor fender.

"The tractor was originally equipped with a single mirror on the driver's side that was so small I couldn't see around wide wagons," says Allen. "These mirrors give me a much better view."

Contact: FARM SHOW Followup, Jerry



By mounting a pair of big truck mirrors on his Deere 4640, Jerry Allen can see around wagons and wide equipment.

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