

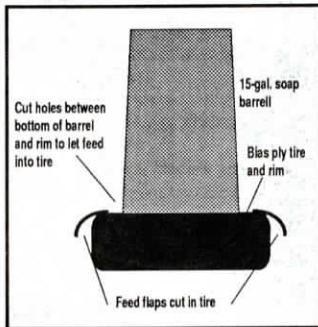
Old Tire Pig Feeder

You can make efficient, virtually indestructible pig feeders using an old bias ply tire and wheel rim with a barrel mounted on top of it to hold feed.

"There's no waste. Works great with ground feed," says Gene Zimmerman, Abbotsford, Wis.

He lays a 14-in. bias ply tire and rim flat on the ground, with the dish side of the rim downward. Then he cuts feed flap openings in the face of the tire that pigs can lift with their noses. The flaps are about 5 in. wide. He cuts horizontally at the center line of the tire, and then upward on either side of the 5-in. cut all the way back to the tire bead. He leaves about a 2-in. gap between flaps so there are 8 or 9 flaps in all.

Then he bolts a 15-gal. plastic soap barrel and in the rim to the top of the rim and used a 4-in. angle grinder to cut three holes in the bottom of the barrel to let feed drop



down into the tire.

Contact: FARM SHOW Followup, Gene Zimmerman, Box 83, Abbotsford, Wis. 54405.

Sand Bedding Helps Eliminate Mastitis

You can't beat bedding cows with sand, says Michigan dairy farmer Larry Nobis of St. Johns, who runs a 550-cow herd, milking 3 times a day in a double-8 herringbone parlor.

Nobis distributes 10 tons of sand a day in the free-stall barn, or about 40 lbs. per stall. He uses straw in maternity pens and sawdust in the heifer barn but for milk cows, he says sand is the only way to go.

Sand provides excellent drainage, leaving almost no liquids for bacterial growth, and it's non-organic, which also helps limit growth of bacteria. When the cow lies down, her udder and teats rest on dry, relatively clean sand. Nobis says he now has so little mastitis "it's unbelievable".

Handling 10 tons of sand a day is the biggest headache. He started using 80 lbs. of sand per day per cow but switched from washed sand to a finer product containing a little clay so cows now take less with them

when they leave the stalls.

Alleys are scraped into a pit at one end of the barn. From there, a \$12,000 cyclone pump, salvaged from an old gravel processing plant, moves the manure into the first of two 2-million gallon storage lagoons. The first lagoon is a settling pond for solids. Liquids flow into an adjacent lagoon. Sand would damage liquid manure handling equipment so he allows it to settle to the bottom of the lagoons. It's removed with a front end loader, piled up, and allowed to drain for 2 to 3 days. Liquids flow into the lagoons while the sand is then loaded onto a dump truck and spread on areas of fields with a high clay content.

Nobis is looking for a better way to handle the sand once it gets into the pit or a way to reduce the amount of sand used per cow. (Kerri-Sue Lang in Ontario Farmer's Dairy Guide)

Bale Dryer Saves Wet Hay

The summer of 1993 was one of the wettest on record in Wisconsin history but Dan Kamps, a commercial hay-grower near Belmont, saved nearly all of his crop thanks to a forced-air bale dryer he built a year ago.

He now bales hay at up to 35 percent moisture without worrying about losing quality in storage.

He built a lean-to alongside the 20-ft. sidewall of his hay shed to house the dryer, which is 66-ft. long and 8 ft. wide and can handle 540 bales per batch. The drying floor is made of concrete slats spaced 2 in. apart (he got the slats from a relative who was modifying a beef barn) resting on concrete ledges over a 4-ft. deep hot air tunnel. He put a layer of heavy steel mesh over the slats to add enough strength so the floor would support a tractor and loader weighing up to 9,000 lbs.

A 28-in. dia. 10-hp. grain bin dryer blows 100° to 110° heated air into the tunnel and up through the piles of bales on the slats. Layers of bales are offset about 3 in. to keep hot air from escaping and he draped canvas over the sides of the bale stacks to keep hot air from getting out. This year, he plans to add mechanically controlled wood side-walls that close in around the bales.

It takes 1 to 1 1/2 hrs. to load or unload the dryer, which is controlled by thermostats at either end of the drying floor. Drying bales down to a safe moisture level takes 1 to 1 1/2 days. Hay generally dries uniformly from one end of the dryer to the other but not from the bottom to the top of the stacks. He usually runs the dryer until bottom-layer bales test 16 to 17% moisture, the middle layer about 20%, and the top layer about 22%. Hay in the top layer could spoil at that moisture level so only bales treated with a low rate of propionic acid are placed in the top layer.

Kamps estimates summer-long fuel and electricity costs averaged about \$20 per ton of hay dried but he plans to reduce that by a third by increasing efficiency of the system. For instance, he's installing a larger 42-in. fan with a 15 hp. motor to increase air flow.

He spent \$5,000 on the building and \$6,000 on the concrete floor. However, he sold the dried hay for up to \$170 a ton, much of which might otherwise have gone to waste in the field.

Contact: FARM SHOW Followup, Dan Kamps, Belmont, Wis. 53510. (Neil Tietz in Hay & Forage Grower)



He Warms New-Born Pigs In Microwave

A Canadian researcher has come up with a way to save hypothermia-inflicted newborn pigs. He zaps them in a microwave.

Dr. Luis Bate at the University of Prince Edward Island pops chilly pigs into a low-wattage microwave that warms them up "from the inside out". Bate notes that trying to warm up frozen pigs with heaters or other methods is often too slow to do any good. Microwaves act on the entire body, reviving pigs in minutes that would almost certainly have died.

Bate warns that you can't warm pigs in a conventional kitchen microwave oven. He uses a special-built low-wattage unit that operates at a frequency of 915 megahertz compared with the 2450 megahertz of a 500-watt domestic model.

It took more than a year of experimenting to come up with the right wattage that would do the job. He started by warming up a

piglet sized container of water, and then moved up to corpses before trying the real thing.

"No animals were hurt in testing," says Bate, who also hopes to develop a human-size microwave machine for reviving people suffering from hypothermia. That machine's a few years off.

A Canadian manufacturer has working prototypes of Bate's pig microwave. It's a 5 by 6 by 12-in. long rectangular box that's big enough for one pig at a time. According to Wendell Dawson of D-Ossone Canada Ltd., the company hopes to have a unit on the market later this year.

Contact: FARM SHOW Followup, Wendell Dawson, D'Ossone Canada Ltd., 18 Shell Ct., Charlottetown, P.E.I. C1A 2Z8 Canada (ph 902 566-4233; fax 902 566-5235).

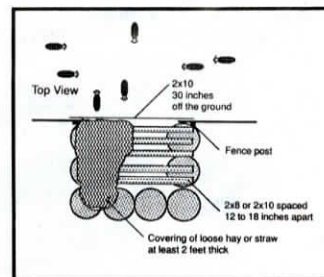
Low-Cost Calf Shelter Built With Round Bales

One man can build this low-cost calf shelter in less than 2 hrs. using a tractor loader and big round bales. Once bad weather passes, you can quickly take the structure apart and use the straw for bedding or feed.

Animal scientist Vern Anderson at North Dakota State University came up with the idea at the Carrington Research Center. He used 12 large round flax straw bales.

Bales were stacked 2-high on end in a U shape with two bales on each leg and four bales across the bottom. Four planks are placed across the top of the bales and loose hay or straw spread on top of the planks. Another plank is fastened to fenceposts on either side of the opening about 30 in. off the ground to keep cows out of the shelter but allow calves easy access.

Anderson says calves enter the shelter



readily and stayed comfortable in the dry, well-bedded interior during winter storms. It's big enough to hold 15 to 20 calves and could be constructed side-by-side to share common walls. (Grainews)

"Do-It-Yourself" Farm Equipment

A British manufacturer has hit on a new way of selling farm equipment that lowers costs both for the manufacturer and for the farmer buying the equipment.

Michael Moore Moles in Southminster, England, sells a do-it-yourself assembly kit for a tow-behind packer roller. It comes crated with all the parts needed to put it together.

The rollers are available from 10 to 18 ft. wide with folding versions. A 13-ft. double row model with 26-in. dia. rings sells for

about \$10,000 in kit form and \$12,000 fully assembled.

"Most farmers have a workshop, welder and extra time in the winter. Selling kits allows us to pass on our labor cost savings to buyers. Our factory labor and overhead costs are about \$35 an hour, much higher than on a farm," says Michael Moore.

Contact: FARM SHOW Followup, Michael Moore Moles, Southminster, Essex, England (ph 0621 772886).