

COOLS 100 HEAD OF CATTLE

Giant Fan Keeps Feedlot Cattle Cool

If California ag engineer Bill Fairbank has his way, feedlots and pastures all across the country will soon be sprouting giant cattle fans that make corrals look like they've got helicopters parked in them.

The University of California extension researcher has designed a barnyard version of overhead paddle fans used in homes and offices. His fan is 24 ft. in dia. from blade tip to blade tip and has water misting nozzles positioned below it.

The fan, which mounts on a steel pedestal and can be moved easily from place to place, is powered by a 2 1/2 hp. electric motor. "It spins slow at about 44 rpm's but blade tip speed is the same as on a 48-in. dia. fan," says Fairbank, who says the optimum speed may be even slower at about 36 rpm. This is the second summer that the giant fan is in testing.

With a power consumption of just 2 watts per hour, the fan costs just 10 to 30 cents per hour to run, depending on local electrical costs. The motor direct-drives the fan through a 38.4:1 gearbox. The fan, which weighs 1,200 lbs., can be picked up by a front-end loader. It requires only electrical hookup to 110 volts and connection to a water hose with normal water pressure. The 2-in. dia. center pipe carries electrical and water lines.

There are four mister arms positioned

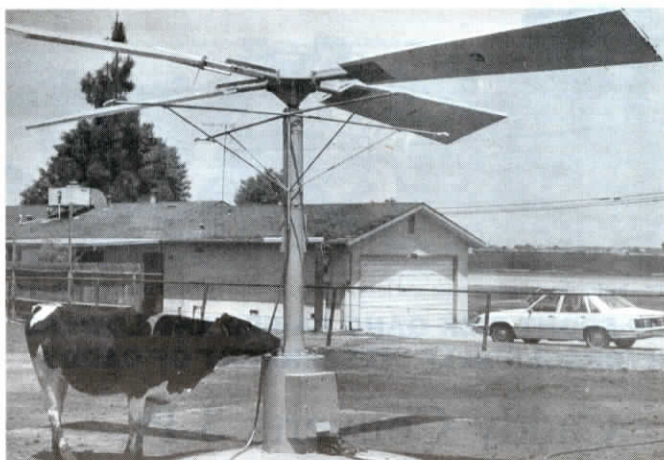
just below the fan blades. Each arm is fitted with two 1.5 gpm nozzles for a total water requirement of 12 gpm.

"It can be positioned anywhere. One fan will cool approximately 100 head of cattle. The slow speed fan provides just as much cooling as higher speed fans. Some animals don't like fast-moving airstreams," says Fairbank. He says that in testing he's found that the fan can eliminate feeding problems caused by hot weather. The fan can be positioned next to dip pens, in runways between corrals or under shade areas.

The lightweight blades are 1 3/8-in. thick with a wood frame and a foam-filled inner cavity. Each blade weighs less than 40 lbs. Because the blades spin so slowly, their design does not have to be aerodynamically perfect.

Fairbank expects each fan to cost around \$6,000. He says that compares favorably with other commercial cooling systems that can cost as much as \$50,000. He can provide literature on his prototype models or refer interested readers to the manufacturer he's been working who will build fans on a custom basis.

For more information, contact: FARM SHOW Followup, Bill Fairbank, University of California, 1151 Geology Building, Riverside, Calif. 92521 (ph 714 787-3333 or 3710).



Powered by a 2 1/2hp electric motor, the 24 ft. dia. fan has water misting nozzles positioned below it and mounts on a steel pedestal for easy transport.



Walterscheids mounted a pair of side delivery rakes on a 3-pt. frame.

PULLS IN TWO 14-FT. SWATHS

First-Of-Its-Kind 3-Pt. Double Rake

"There's not a machine like it on the market," says A.J. Walterscheids, Carlsbad, N.M., who modified a pair of side delivery rakes to mount on a 3-pt. frame. The rakes pull windrows from two 14-ft. swaths into a single giant windrow.

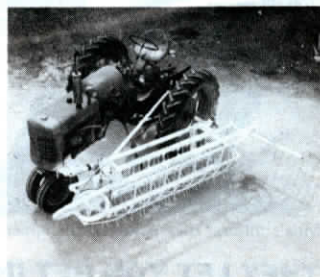
Walterscheids says the thing he likes the best about his double rake is its maneuverability. "The rakes fold in against the tractor for transport. They fold right out in the field and you can start raking right away without getting off the tractor. Makes it easy to move from field to field, which is important to us since we farm terraced fields and have to move around a lot."

The double rake started out as two separate 8-ft. Ferguson rakes. Walterscheids totally disassembled both rakes, extending each to 10 ft., 4 in. in length and rebuilding all components. He reversed one rake so it would run in the opposite direction, and replaced the pto-drives on both rakes with hydraulic motors that drive the original 20-in. dia. pulleys.

He built 3-pt. frame out of 6-in. dia. pipe and support arms that run out above the rakes out of 4-in. pipe. Hydraulic cylinders fold the rakes in alongside tractor for a transport width of 14 ft.

"I spent about \$1,000 in materials and did a lot of machining and welding. We can easily throw two windrows together at the rate of 15 acres per hour. A commercial rake this size costs \$12,000 or more and won't work as slick as this one. It's the only 3-pt. rake of this size I've seen," says Walterscheids.

He has already contacted Deere & Co.



He also made a windrow turner from an old Ford rake that mounts on the side of an IH Super C tractor.

and Ford New Holland. Both manufacturers have expressed an interest in his machine and plan to test the design.

Walterscheids also made a nifty windrow turner that mounts on the side of his IH Super C tractor. "It's an old Ford rake, about 8 1/2 ft. long. It's mounted at a sharp angle so rakes just 3 ft., which is just enough to turn over a windrow. I travel at 15 to 20 mph. Works great. Tines at the rear end of the rake hold the windrow in place so it just turns over once."

The rake attaches to front of tractor frame and to the rear axle. "I moved the wheels in and put a bearing on the end of the axle for the rake to pivot on when it's lifted."

The windrow flipper is pto-driven by a shaft that runs from the rear of the tractor up to the front of the rake via two U-joints.

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Harold Walters and Kenton Woster added a 2-ft. chunk to the axle of their new grain cart so it would match their 36-in. rows and follow in the tracks of their combine.

COMBINE AND WAGON NOW FOLLOW THE SAME ROWS

Stretched Wagon Axle Reduces Compaction

By Harry O'Brien

Two Iowa farmers reduced compaction on their corn and bean fields by adding a 2-ft. chunk to the axle of their new grain cart so it would match their 36-in. rows and follow in the tracks of their combine.

Harold Walters and Kenton Woster, of New Providence, replaced the 6 by 8-in., 120-in. long axle with a 144-in. long trussed frame that spans four 36-in. rows. They

beefed up the new axle with 1 by 4 in. strap iron and added a stub drawbar. Walters says the wide-track rig straddles 4 ridge-tilled or flat-planted rows. By running both combine and grain cart wheels in the same rows they reduce overall compaction.

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