

## Rollers Smash Stalks, Save Tires

BT corn isn't just rough on pests; it rips up tires, too. After replacing tires on his International Harvester 1640 combine in mid season a year ago, Dwight Ruhlen hated to see one of the new tires lose a cleat before harvest had even ended.

"I have a neighbor, Jeff Cail, who does welding. I took the header over and told him what I wanted and where it needed to go," says Ruhlen.

He wanted rollers that would knock the stubble over before it tore up tires. Cail put together two frameworks with bar springs, bearings, brackets and rollers. He mounted them on the rear of the header directly ahead of the tires.

Each steel roller is 10 1/2 in. wide and 8 1/2 in. in diameter and made from 1/2-in. well casing. Plates welded to the ends enclose the casing with a 16-in. long, 1 1/2-in. shaft ex-

tending through the centers. To give the rollers extra crushing power, Cail filled them with sand.

The roller shaft fits 4 5/8-in. bearings that are bolted to 4 by 6-in. plates. The plates in turn are welded to the ends of two bar springs mounted to the header frame. A 14-in. piece of 2-in. angle iron welded to the two bar springs adds stability and prevents them spreading apart under pressure. Finally Cail welded the ends of a length of chain to the end of each bar spring and bolted it to another bar on the back of the header.

"The chains keep the roller from going back under the header if the combine backs up when the header is down," explains Ruhlen. "The bar spring gives the rollers some flexibility if they hit a rock or other object."

The rollers cost Ruhlen about \$400. After



Ruhlen stalk rollers knock stubble over before it can tear up tires. Chains keep the roller from going back under the header if the combine backs up when header is down.

one season of use, he's confident they were a good investment, especially with tires that cost \$1,200 each to replace.

Contact: FARM SHOW Followup, Dwight Ruhlen, 2591 Halcyondale Rd., Sylvania, Ga. 30467 (ph 912 863-4398).

## Seed Breeder Develops New Open Pollinated Corn

For 20 years Glenn Page has been cross breeding and selecting lines of open pollinated (OP) corn for early maturity, standability and yield. He now has three lines ready for commercial sales and another that's close. All he needs is a few people ready to pick up his work and move it into production.

"OP corn cuts drying costs, yields well on marginal ground, and slashes seed costs," says Page. "I have two 85-day or less varieties, a 90-day or more variety, and two early 85-day mid rib varieties," says Page. "They're easily capable of 150 bushel per acre yields and have excellent standability."

Early maturity and spike tassels are two key traits of Page's corn lines. The early maturity utilizes light during the longest days of the season for maximum growth. Early pollen and silk production reduces the potential for yield-limiting plant stress from midsummer heat and drought. The early maturity also reduces drying costs.

"Traditional open pollinated corn had very large tassels producing over 200 pounds of pollen per acre in mid to late July when plant stress is greatest. In addition to the photosynthetic cost of producing all that pollen, the large tassels also shaded the plant."

Page's spike tassels and smaller stalks require less energy from photosynthesis, and the smaller tassels reduce shading. Each stalk produces an ear, but the smaller stalks often mean smaller ears. To compensate for the reduced ear size and to make full use of available light, Page advocates higher populations. He selects his seed stock from populations as high as 55,000 plants per acre.

After a lifetime of plant breeding, both as an alfalfa breeder with Northrup King and an independent plant breeder, Page admits he needs partners now. Health problems have limited his ability to continue with the rigors of OP corn selection.

"I am looking for someone to carry on the effort, though I would like to help coordinate it," he says.

The process is simple, explains the plant breeder. It requires someone to take Page's lines of OP corn and plant in isolation from commercial corn. A creek bottom or hilltop surrounded by trees and a 1/4 mile from other cornfields would be ideal. However in the case of the early maturities, timing of pollination can be isolation enough, if planted near later season maturities. Selection plots can be as small as 1/8 or 1/4 acre.

The country breeder would have to walk the field repeatedly and remove tassels and ears from stalks that don't display desired traits. Each bushel of selected corn would



Three lines of open pollinated corn are ready for commercial sale.



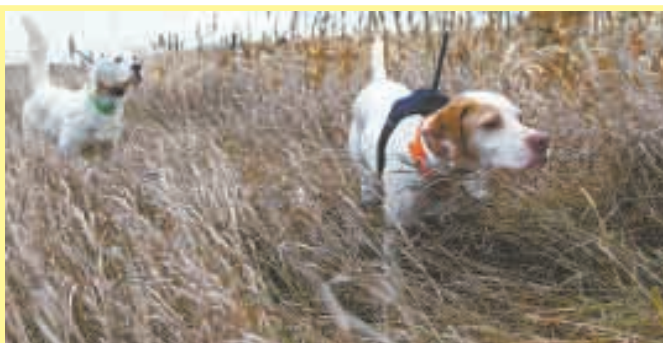
Standability of the early maturity population is excellent as shown here in a field planted at a population of 55,000 plants per acre, says Page.

then be replanted on two acres the following year by the country breeder or by a seed producer. Those two acres would produce enough seed to plant 600 acres the following year, seed that could then be sold to other farmers for production in the fourth year.

"The selected seed will breed true for spike tassel size and other traits for several years," says Page. "Then the farmer will need to return to the seed producer for fresh seed."

In addition to planting on marginal and droughty soils, Page suggests his OP corn would be ideal for use in deer and wildlife plots. "In a wildlife plot, you don't want corn that is too high, and you don't need 200 bushel yields," he says. "It wouldn't be very expensive, and the early maturity would be ideal for feeding wildlife in the fall."

Contact: FARM SHOW Followup, Glenn Page, 4351 Mackey Ave., Minneapolis, Minn. 55424 (ph 952 926-1364).



A receiver screen pinpoints dog's location, speed and which direction dog is heading.

## GPS Collars Help Keep Track Of Dogs

Dog owners have a new way to keep track of their animals. GPS collars were introduced by a couple of companies in 2007.

Boyd Palsgrove of St. Paul, Minnesota, tested a "RoamEO" unit on his 100-lb. golden retriever.

It has a handheld receiver unit and a weatherproof GPS transmitter unit that's attached to the dog's collar.

The receiver screen pinpoints the dog's location, speed and which direction it's heading up to a mile of line of sight. Dog owners can also create a virtual GPS fence. An alarm sounds if the dog has gone outside a set boundary.

Palsgrove, who now sells the RoamEO, says his customers include pet owners, hunters, canine police and the owner of a 75-year-old tortoise. One RoamEO unit can track up to three dogs. Rechargeable lithium batteries power both units. Cost is \$550 with a 1-year warranty.

Garmin International in Olathe, Kansas, makes the Astro, which works up to five miles line of site and includes a stand-alone, full-featured GPS device including a barometric altimeter, electronic compass, and the capability of downloading automotive maps and marine maps. Garmin also offers a neoprene harness to secure the GPS unit to the dog. Astro can track up to 10 dogs simultaneously,



System includes a handheld receiver unit and a weatherproof GPS transmitter unit that attaches to dog's collar.

and has been well received by hunting customers, says Jessica Myers at Garmin.

The Astro has a 1-year warranty and uses a rechargeable lithium battery on the dog's transmitter and two AA batteries for the handheld unit. Stores such as Cabela's, Bass Pro Shop, and Amazon.com sell the \$649 Astros.

Contact: FARM SHOW Followup, RoamEO, White Bear Technologies, 900 Long Lake Road, Suite 110, St. Paul, Minn. 55112 (ph 888 476-2636; info@roameoforpets.com; www.roameoforpets.com) or Garmin Astro, Garmin International, Inc.; www.garmin.com.

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