

# "On the road again" with Schnupp's Roast-A-Matic

LEBANON — Billows of steam cascade through the cold winter air, and a smell faintly reminiscent of fresh roasted peanuts teases the nostrils. From within the steamy cloud come the thundering sounds of chugging motors, tumbling grains and roaring flames.

Schnupp's Roast-A-Matic is on the road again, turning another batch of raw farm grain into a digestible, protein or starch-rich feed ingredient.

Roast-A-Matic is the business brainchild of fourteen years ago by former poultryman Dale Schnupp, of Lebanon R6. Today, that business is operated by the ag entrepreneur, his wife, Velma, who handles the office work, their three daughters lending a hand on the phones, and a staff of employees who design, build and operate these interesting processing machines.

More than 3,000 farmers, either directly or through custom-operator owners of Roast-A-Matics, utilize roasted grains from the unique process in their feeding programs. Although customers today hail from the Atlantic seaboard to Nebraska, and from Tennessee to the Canadian interior, Dale Schnupp was once ready to "throw in the towel" on the whole idea.

While working as a former grain cleaner operator for the Reist Seed Company, along with running the family's 18,000 layer business, Schnupp occasionally ran across cleaning customers with an interest in roasting their own soybeans for feeds. Bean roasting had enjoyed a surge of interest about 25 years ago, but never met with very notable success from the feed utilization angle.

Still, three of Schnupp's farmer friends wanted to get into on-farm roasting and feeding of soybeans, but were reluctant to sink a financial investment into the needed equipment.

"That was the birth of the idea," Schnupp relates.

Admittedly, business was slow at first. Not only were farmers not acclimated to the idea of roasting and feeding their own raw grains,

but earlier experiments simply had not shown convincing results from the feeding end.

And Schnupp's early customers, for the first three years, just were not seeing the results they wanted either. By the fourth year, Schnupp figured the whole idea was something of a failure, but the reason was that the beans simply weren't being roast hot enough.

He speculated that he had nothing to lose, and redesigned the process to slow down the bean flow-through and gain a higher temperature.

"I figured I had already lost anyway, and decided I'd try anything at the point," says Schnupp, remembering that period of the business in which he seriously considered simply selling out all the equipment.

"It was against all better knowledge at the time. The thinking was that, if the grain was heated that hot, there'd be nothing left."

For three months, Schnupp experimented with the higher-heated beans for his customers. Feeding results, better producing livestock, and happier customers soon told him it had been a gamble that would pay off.

"Business started to snowball," he says of the turning point in the grain-roasting venture. Growth over the ensuing years has underlined the need for this on-farm roasting service.

But the move to get the beans to a higher temperature created a slowdown in per hour volume, and Schnupp continued to seek ways to devise a more efficient process, while working out "the bugs" of the grain roasting business.

Four years ago, Schnupp made what he now calls his "second best move," and began to build his own Roast-A-Matic machines. He operated his own machines on the road but there was a mushrooming interest by farmers who wanted their own.

What the roaster does is sterilize and pre-digest grains. In the case of soybeans, the heating process breaks down the oil cells and destroys two toxic enzymes present in beans in their raw state.



Billowing "bean steam" lends a sort of unearthly look to area farms as the Schnupp Roast-A-Matic processes soybeans for use in livestock rations. Once heat-roasted, grains can be stored for longer periods of time without spoilage.

In high starch grains, such as corn, the heat causes the starches to begin converting the sugar, pre-digesting the product and making it easier for utilization by the digestive systems of animals.

Molds that foster spoilage are also destroyed in the heating, making it possible to store grains more readily, and any low-level spray residues are eliminated as well.

"It basically goes back to a more natural feed product," assesses Schnupp, after a decade of perfecting roasting techniques, mostly through trial and error.

Beans are continuous-flow metered at a controlled rate into the machine and fed into a rotating drum, similar to a cement-mixer set-up. A propane-fired open flame shoots into the drum; and as the grain turns, it makes about five passes through the flame while moving through the drum. Grain gets about a half-minute of actual flame exposure, heating to a temperature of 240-250 degrees. Since the grain is constantly moving, overheating or burning at any one spot is avoided.

Initially, Schnupp roasted grains at the rate of three tons per hour, then about nine tons with a second machine he had purchased. With his own roasters, volume has been charted as high as 18 tons per hour, but the average is about 15 tons for most processing.

Because it is the actual exposure to an open flame that does the sterilization and pre-digestion, this process of handling raw grains, he says, is considerably more efficient than standard grain drying. In standard processes, fuel is used to heat the air around the grains, and the air in turn dries the grain.

"That puts us into a whole new market," figures Schnupp. "A roaster can be used in place of a grain dryer. Quite a few farmers are now doing that, and seeing better feeding results."

Grain producers cannot yet expect to see a better market price for roaster-processed grains, over those dried by standard methods. However, Schnupp does foresee a day when the market will reflect the feeding value added to grains by roasting.

No real studies have been done in the past by university or ag business researchers on grain roasting, but a few facilities are now taking a comparative look at the finished product against standard-handled grains.

Initially, the business got its foothold in the feeding programs of local dairymen, but other producers began tapping into the idea when faced with piles or bins of spoiling grains. Schnupp



Paul Lehman, son-in-law of Dale and Velma Schnupp, operates one of the two Roast-A-Matics kept on the road in Pennsylvania and adjoining states.

recounts one instance when grain that was "ready to be hauled back out to be dumped on the fields," was roaster-processed, and instead salvaged as a useful feeding by product.

Pork producers have in recent years jumped on the roaster bandwagon, with some tallying up to ten percent in feed savings and keeping Schnupp's firm scrambling to keep up with demand. One 200-sow, farrow-to-finish pork producer related to Schnupp that, in the three years since he began using roasted grains, he's not paid a single veterinarian bill.

Canadian farmers are displaying a boom-business interest in roasters, too, and Schnupp spent a great deal of time over the last few months setting up a distributorship in Ontario.

The Roast-A-Matic company keeps two roasters on the road, primarily serving counties surrounding the Lebanon production site, plus into Maryland and Eastern Shore areas. Numerous other roasters are now owned by farmer-custom operators who process for their

neighbors, including one owner as far away as the western border of Nebraska.

With a definite niche already carved into the feed business, Schnupp is taking roasting one step further: he's hired a nutritionist to work with customers on setting up their own feeding programs based on the roasted home-grown grains.

"This gives farmers just one more possibility for their feeding programs," is how Schnupp sums up this roasting business he's pioneered.



Paul Lehman monitors the speed of grain flowing into the roaster's rotating drum, where it passes five times through a propane-fired open flame, sterilizing and pre-digesting raw feedstuffs.

