

# Birds Build Better Beef

## Billy and Sandy Long Found A Ready Market For Their Dehydrated Poultry Waste In The Cattle Business

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HARRISONBURG, Va. —

Whoever said you can't get too much of a good thing wasn't talking about poultry manure. The nitrogen rich by-product of the poultry industry usually accumulates faster than most producers can figure out what to do with it, and in amounts larger than they can use themselves.

But Billy and Sandy Long of Quicksburg, Virginia, have come up with their own solution to the mounting problem of excess poultry manure — cattle feed. They take raw manure from their family's 40-plus chicken and turkey houses, dehydrate it, and sell the nutritional end-product as a high protein cattle feed.

Drying poultry litter is not a new concept, the Longs explain. Many poultry producers have tried to dry their manure and market it as a fertilizer, often with little success, Billy notes. However, the potential of dried litter for cattle feed has been largely overlooked by both poultry producers and cattlemen alike, Long says.

According to Dr. H. John Gerken, Jr., extension specialist in animal science at VPI, Virginia's land grant university, when broiler litter is properly included in nutritionally balanced rations, it is more valuable as livestock feed than as fertilizer. Yet beef specialist Dr. Ike Eller admits that, "Broiler litter in areas where it is available is still probably the best and most under utilized feedstuff."

The reason, Billy Long believes, is because many beef cattlemen are reluctant to handle or feed the raw product. Before raw manure

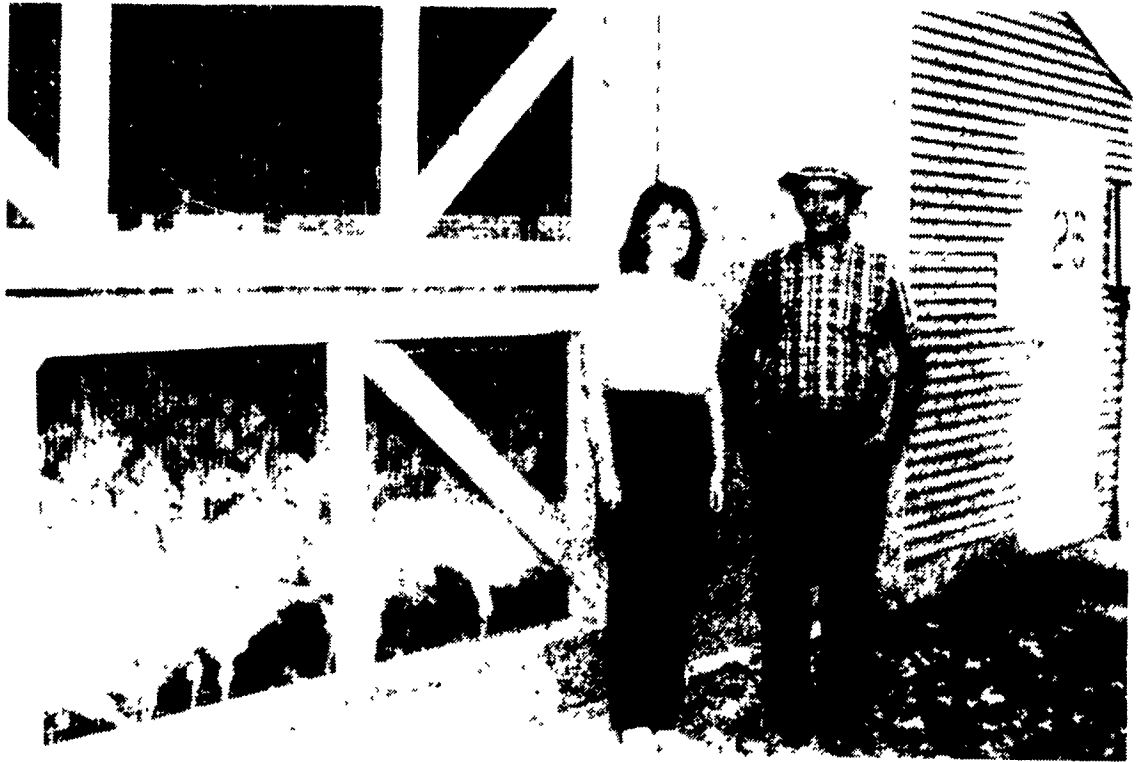
can be utilized in cattle rations, it must be processed for feeding by either deep stacking, ensiling alone or by ensiling with corn forage. In either case, combining the litter with corn silage or mixing it with other rations is a process many beef producers would rather avoid.

The Long's dehydrated version of poultry litter, called Valley Grow, eliminates this and other problems associated with unprocessed manure. Unlike the raw product, dried poultry waste is pleasant and easy to use and can be hauled or shipped like any feed product. Furthermore, once the manure is in a more acceptable form, beef farmers find the nutritional content of the cattlefeed hard to resist.

"Valley Grow has a TDN (total digestible nutrients) content of at least 40 percent, with a guaranteed 23 percent minimum protein — although that usually runs closer to 30 percent protein," Sandy Long explains, noting this is much higher than either corn or alfalfa hay. The dried poultry waste she and her husband market also contains phosphorus, calcium, magnesium, iron and manganese, important micro-nutrients not always found in other feeds, she adds.

The feed itself is a dry, rich brown product that doesn't resemble raw manure in any way, shape, or form . . . including odor. Poultry manure from the farm is hauled to their small dehydrating plant just north of Harrisonburg and deep stacked until it's used. Then the Long's dry it down to a 10 percent moisture content using an unique dehydrating process.

According to Billy Long, the raw



Sandy and Billy Long with some of the "manufacturers" of their Valley Grow cattle feed.

product is first run through a hammer mill and is then elevated into a one-of-a-kind vacuum dryer where it is dried at 800°F. for a few seconds. From there it goes into a cooler and into another hammermill with a one-quarter inch screen to make a mash product. If the product is to be pelletized, it goes on to a 150-horsepower pellet mill specially adapted for the purpose. The mash and pellets are then sold bagged or in bulk to cattlemen.

The mash and pellets look like any other commercial feed product and mix easily with other rations. Most producers simply use Valley Grow as a top dressing on their ensilage, Sandy reports. "Although most cattle take to it with their usual enthusiastic appetites, we do suggest that producers gradually add the cattle feed to their rations to accustom the animals to the dehydrated litter," she adds, noting the dried litter can be fed just like the raw product.

"Dry, nursing and pregnant cows can be fed a ratio of 70 percent Valley Grow and 30 percent silage, ground corn, haylage, milo and that sort of thing with pregnant cows receiving 13 to 15

pounds and dry and nursing cows 15 to 20 pounds. Growing calves should get 6 to 8 pounds of a 50 percent ratio and finishing calves 40 percent Valley Grow, 60 percent roughage plus molasses and premix," Long explains. These are the standard guidelines issued by VPI for feeding poultry manure, she adds.

Both husband and wife feel there are other advantages with their dried poultry waste product that cattlemen like. The dehydrated Valley Grow is a stable product that can be stored in a dry place up to five years with no appreciable loss in quality or nutritional value. The vacuum drying process also kills harmful organisms and removes foreign objects such as nails or glass that may have been in the raw product.

Economics also make his Valley Grow attractive to beef producers, Billy emphasizes. A 10 percent moisture content means producers are getting more food value per weight unit and don't have to worry about spoilage either. He also points out that Valley Grow has stayed the same price since 1983, and, since it is immune to market fluctuations, can make farm budgets more accurate.

Poultry waste is cheaper per protein unit than corn, soybeans or alfalfa and can stretch a farmer's feed supply while upgrading his rations, the poultryman says. It also frees crops for market instead of tying them up as livestock rations if demand is high for hay or other commodities, and, in a drought year such as this, can supplement scant, poor quality livestock feed.

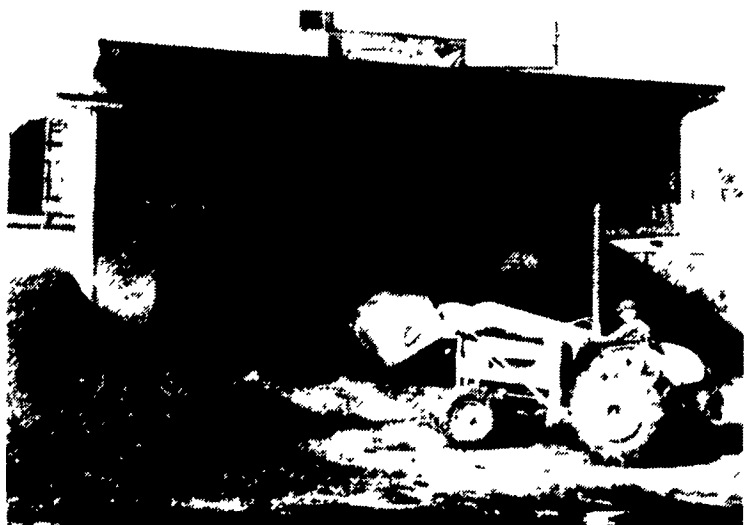
The Longs sell about 300 tons of their dehydrated poultry waste a year direct from their plant, Virginia Dehydrating, in Harrisonburg. The operation is a family corporation once owned by Franwood Farms, another Long family enterprise centered around poultry. In fact, Billy grew up in the poultry business and never really considered doing anything else. By the age of 11 he was raising guineas and chickens and after a year of college came back to the family farm.

Billy and Sandy ran a breeder operation for six years in South Carolina before returning to the Shenandoah Valley for good. Ten years ago he and his brothers bought Virginia Dehydrating as an outlet for poultry manure and operated it independently from Franwood Farms. Eventually it became Billy's project and 2½ years ago, he and Sandy purchased the business for themselves.

Both Longs believe the potential of poultry litter for cattle feed is excellent and can offer a real solution to both economic pressures on beef and growing stockpiles of manure. It may take hard work, education and promotion, Billy admits, but these are things which poultry producers have addressed in the past and can do so again. Beef cattlemen have much they could gain from poultrymen, he hints — including some first-class cattle rations.



Sandy Long displays some of the finished product, which bears little resemblance to manure. TDN runs at least 40 percent, and protein content is normally 23 to 30 percent.



Junior Bazzle loads raw poultry manure into a hammer mill before it is vacuum dried at 800 degrees, then cooled. Product is then pelletized or sold as mash.

### Sample Analysis VALLEY GROW Dried Poultry Waste

|                        |         |
|------------------------|---------|
| Crude Protein, minimum | 23%     |
| TDN                    | 40%     |
| Crude fat, minimum     | 2%      |
| Crude Fiber, minimum   | 18%     |
| Moisture               | 10%     |
| Ash, maximum           | 30%     |
| Phosphorus             | 4%      |
| Calcium                | 2%      |
| Magnesium              | 0.68%   |
| Iron                   | 0.19%   |
| Manganese              | 325 ppm |

### Approximate Composition of Broiler Litter Compared with Alfalfa Hay

|                           | Average Dry Matter | Crude Protein | Crude Fiber | TDN | Percent Composition (Dry Basis) |            |
|---------------------------|--------------------|---------------|-------------|-----|---------------------------------|------------|
|                           |                    |               |             |     | Calcium                         | Phosphorus |
| Alfalfa Hay (Early Bloom) | 90                 | 18.4          | 29.8        | 57  | 1.25                            | 0.23       |
| Broiler Litter            | 65-90              | 28.0          | 14.9        | 60  | 2.3                             | 2.0        |

Dr. H. John Gerken, Jr., Extension Specialist, Animal Science, VPI & SU