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A Natural Alternative

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The recently introduced CowPots, manufactured from manure fiber, offer an unconventional alternative to standard plastic pots.

- By George C. Elliott

If you Google “CowPots,” you won’t get “Did you mean: cowpats” anymore. CowPots, produced by the Freund Family farm in the rolling hills of western Connecticut, have gained national recognition as an environmentally friendly alternative to standard plastic pots.

Brothers Matt and Ben Freund milk a herd of 260 Holsteins in the hamlet of East Canaan. Nutrient management is a major challenge for the dairy operation, as traditional land spreading can only accommodate a portion of the nutrients accumulated in the manure. Environmentally sound disposal of the nutrients requires exporting them off the farm. Necessity was again the mother of invention in the development of CowPots, when the Freund brothers came up with the idea of using composted manure fiber to fabricate pots. Little did they know that this inspiration would lead to spots on the Discovery Channel’s Dirty Jobs and CNN’s Larry King Live.

The Potential of CowPots

Details of the patent-pending manufacturing process for CowPots are closely guarded, but in basic terms, the manure is first composted in a process that involves anaerobic digestion. This digestion also produces methane gas that is collected and burned. The solids are separated from the liquid phase and subjected to further composting until it is the right consistency to use in fabricating pots. The heat of composting helps ensure that the manure is weed- and pathogen-free. The pots are pressed in custom molds and dried. In early experiments, the prototypes were dried in the kitchen toaster oven, but that has been replaced with a custom-built, industrial-scale dryer.

Scaling up CowPots from a handmade item to a market-ready product has required meeting a number of challenges. First and foremost has been the need to balance strength and rigidity for packing, shipping, handling and crop production versus the need for root grow-out and pot biodegradability when planted. A manure-based product acceptable to consumers has to contend with potential “yuck” factors such as odor and concern about pathogens. The odor turns out not to be an issue: CowPots have an earthy aroma, not the smell you get downwind from a dairy farm when the manure spreader is out in the field. CowPots are tested for pathogens by the same methods used for raw milk, and meet the same standards.

Passing the Test

Of course, horticultural performance is the critical test for any product seeking its place in the market for sustainable agriculture. The Freund Family Farm has a greenhouse and farm market that allows them to test the product and the market. Testing at the University of Connecticut also has played a continuing role in product development. The trials we have conducted provide unbiased, statistically verified evaluation of CowPots’ performance as the formulation and the manufacturing process are refined.

CowPots work quite well for growing plants in the greenhouse. The nutrient content in the pots

provides a small but significant boost during production. They hold up under normal handling for at least 12 weeks (see angelonia picture on page 32). During production, root grow-out will occur where the pot surface is moist, but not otherwise. However, once the pots are planted (see saliva picture above), roots grow out rapidly and the pot begins to decompose (see root grow-out picture on page 32).

Effective Marketing

CowPots are currently being marketed to consumers through mail-order and retail outlets. CowPots received recognition as an eco-friendly product choice for 2008 from Joe Gardener (www.joegardener.com) and a Green Thumb Award for 2007 from the Mail-Order Gardening Association. The Freund Farm Market grows and sells a variety of flowers, herbs and vegetables in CowPots.

This spring, the Freund Family Farm teamed up with Gilbertie's Herb Gardens in Easton, Conn., and the Chas. C. Hart Seed Co. in Wethersfield, Conn., to produce popular vegetable and herb varieties from untreated seed in CowPots. According to Sal Gilbertie, the program was successful with retailers, including their own retail store in upscale Westport, Conn. It was an "easy sell" despite the absence of POP information about the product. Plants sold at a higher price point than those in plastic pots. The public was very receptive to the biodegradability aspect. The only problem Sal noted is that fiber pots tear when wet, which creates a problem when customers pick up the product by the rim. This issue is being addressed by continued efforts to refine the manufacturing process for CowPots.

Biodegradable pots are only part of an overall program to achieve more sustainable production. However, as the result of true Connecticut Yankee ingenuity, CowPots help with sustainability on both the output and input sides. For more information, visit www.cowpots.com.

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Source: *Greenhouse Product News* August 2008 Volume: 8 Number: 8
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