

### Texas Ranch Produces Monarch Butterflies

By Lorn Manthey, Contributing Editor

Native Texans Barbara Dorf and her husband, Tracy Villareal, own a 24-acre tract near Corpus Christi. It's one of the few operations in the country that produces Monarch butterflies commercially. It's a sideline business because Dorf and Villareal are oceanographers by day.

Says Dorf, "We specialize in producing the biggest, best and healthiest Texas-sized Monarch butterflies you'll see anywhere." The colorful insects are released at weddings, funerals, parties, and other special occasions. They also provide butterflies for research, education and exhibits.

Dorf started experimenting with host plants and did an internship in 2011. "There's a steep learning curve with a lot of potential pitfalls along the way," she says.

Villareal says some producers will harvest wild milkweed to feed their caterpillars, while others might raise milkweed and complete the whole cycle in a giant greenhouse. Problems such as disease, climate, moisture and other insects are just a few of the curves that producers face. Dorf and Villareal even learned that salt spray from ocean mist can create problems.

Big Tree Butterflies is a seasonal operation that begins production in the early spring when the Monarch migration moves from Mexico into South Texas. Dorf and Villareal capture male and female Monarchs, test them to make sure they're

disease free, then put them in a building to mate and lay eggs. Dorf and Villareal raise their own milkweed (caterpillar food) in a shade house using 72 cell flats for seedlings. After eggs are produced they put eggs and caterpillars on the seedlings.

Using adult plants for food didn't work as well and using high nitrate fertilizer grew the plants too fast. Aphids as well as thrips also posed a problem. Says Dorf, "the learning curve is steep and ugly with a lot of challenges."

Their plant production house is 28 by 48 ft. with a 15-ft. peak. It's covered with shade cloth or plastic and has fans for air circulation. Plants are raised on metal benches. If the plants or Monarchs were raised on dirt, ants would pose problems.

Monarch eggs go through their life cycle in a 12 by 20-ft. metal building with day length, humidity and temperature control. They have 2 by 2 by 4-ft. mesh cubes with plants and caterpillars that produce mature Monarchs in about 4 weeks. Butterflies are produced from March through October. In the past year Big Tree was able to raise about 1,500 of the gorgeous Monarchs.

"Raising Monarchs in higher concentration than in nature requires careful management," says Villareal. "We have to check them each day, clean and sanitize the facilities and keep parasites and bacteria away. Still, it's a labor of love that we really enjoy."

After young butterflies emerge from the



A Texas couple has started up a sideline business producing Monarch butterflies commercially. These monarchs are being force-fed nectar prior to shipping.

chrysalis, it takes about 24 hrs. for their wings to harden. Then they're ready to ship to customers. They're fed, then carefully packaged and shipped priority overnight in insulated boxes. Big Tree has sold Monarchs into 27 states besides Texas and has permits to ship to all states east of the Continental Divide.

Dorf says there are about 80 active breeders in the U.S. and about 10 of those are large producers. The Big Tree operation broke even after 3 years.

In addition to adult Monarchs, Big Tree also supplies caterpillars, eggs and chrysalises for scientific research. Villareal says ongoing research is essential to help reverse the decline in North American Monarch populations. Mature Monarch butterflies sell for \$8 each with discounts for teachers and larger quantities. Call for pricing.

The U.S. Department of Agriculture limits interstate shipment for individual releases to 250 Monarchs. Permits are required to ship Monarchs at any stage across state lines. Monarchs can't be transported across the

Continental Divide because research has suggested there are differences in disease susceptibility between eastern and western populations.

"We've found this to be a wonderful business because Monarchs provide so much joy to people of all ages," says Dorf. "It's a wonderful experience to see Monarchs develop and know that the people who buy them are so thrilled by the experience of releasing them."

Butterflies sell for \$8 each, or \$7 apiece if you buy 2 dozen.

Big Tree Butterflies is a proud member of the Association of Butterflies and the International Butterfly Breeders Association, organizations that promote high ethical standards, competence and professionalism through research, education, habitat conservation and restoration.

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### He Converts Garden Tractors To Electric Power

Brian Edmond says it's relatively easy to convert a gasoline-powered lawn tractor to electric and mow your lawn for about 50 cents a charge rather than burning several gallons of gasoline.

Edmond owns Edmond Electric Co. in Amherstview, Ontario. His electric mower can be plugged into a standard 120-volt outlet or use solar power. Edmond says the electric lawn tractor is quiet, convenient, and good for the environment. The tractor runs clean without gasoline, oil, pulleys, or belts, and it keeps a charge for about 2 hrs. - about 2 acres of cutting - or 8 to 10 hrs. of pulling a trailer in the yard. Edmond says, "It's amazing how it never breaks down and needs almost no maintenance." Aside from blade sharpening and keeping air in the tires, the 4 12-volt batteries have

to be changed about every 7 years and that's about it.

Edmond describes how it works in simple terms. There are 3 motors; one for the drive with electronic speed control, and 2 smaller ones mounted directly to the mower blades. While cutting, the total amperage is at 40 amps (or 2,000 watts). "Because battery run time is the most important aspect of most conversions, I paid particular attention to the most efficient design," says Edmond. Using his design, the blades run purely on battery power with very little wasted energy. When the batteries are spent, they're plugged in and the system charges them in 4 to 6 hrs. An added handyman's feature - by using a 48-volt power inverter, the tractor's battery can supply 110-volt AC power and can be used to plug in power tools, or for an emergency power backup to power a freezer or furnace.

Also, adding safety to the converted tractor, both the blades and the drive motor are equipped with electromagnetic braking. This braking will slow down the tractor, then apply the parking brake automatically, when the accelerator pedal is released or the operator lifts off the seat.

Edmond's company makes plans available for converting a lawn tractor at home using easy-to-find parts. "Some parts are expensive. I'm constantly looking for alternative parts that will be cheaper."



**Brian Edmond converted this gas-powered lawn tractor to electric. It has 3 motors: one for the drive system, and 2 smaller ones mounted directly to the mower blades.**

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### Start Your Own Seed-Treating Business

Whether for use on your own farm or to set up a side business, treating seeds can pay off. Unified Ag Solutions (UAS) has the equipment and seed treatments to make it work.

"We specialize in anything to do with seed treatments," says Emily Nesbitt, UAS. "We handle new and used equipment as well as brand name seed treatments and some we have developed. We can customize a package for your business and your wallet."

Nesbitt is part of a family-owned business started by her father Roger that includes herself and her 2 brothers. She says being a family business helps them as they work with customers.

"We only offer products we would want for ourselves," she says. "If you

are interested in some equipment, my brothers will meet with you to make sure we understand what you are looking for. Then we will develop options for you."

Nesbitt says the family mainly works with farmer seed dealers who treat seed as part of their business. Although an equipment recommendation would depend on how much seed was to be treated, she suggests an AT500 from USC is a good place to start.

"It's a simple box treater with a starting price below \$15,000," says Nesbitt. "It's a new model, but we've already sold 4 or 5."

Nesbitt says customer service is what the family strives for. They welcome the opportunity to work with people setting up new businesses or expanding.

"We will help you get to the point of determining the potential for your business,"



**Unified Ag Solutions specializes in anything to do with seed treatments. They work mainly with farmer seed dealers who treat seed as part of their business.**

says Nesbitt.

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