

If you're looking for new ways to add to your bottom line, take a look at the money-making ideas featured here and on the next page.

If you've found or heard about a new income-boosting idea, we'd like to hear about it. Send details to: **FARM SHOW Magazine, P.O. Box 1029, Lakeville, Minn. 55044 (ph 800 834-9665) or email us at: editor@farmshow.com.**

Tropical Fruits Grown In South Dakota

Avocados, date palms, and novel fruits like lowquats, soursops and cherimoya are flourishing in a passively heated South Dakota greenhouse. Shannon Mutschelknaus grows common leaf crops, tomatoes and more in his greenhouse, too. Based on initial results, the only question is how big his next greenhouse will be.

"I don't have a big desire for common fruit like bananas, but soursop (related to pawpaw, but more tart) has a shelf life of only a couple of days, and you can't get it shipped here," says Mutschelknaus. "Most people don't even know about many fruits and vegetables grown in tropical areas. My cherimoya is probably the first one ever grown in South Dakota."

He designed an above-ground greenhouse with an insulated rear wall, passive solar heat, and an in-ground "climate battery". With the help of a SARE (Sustainable Agriculture Research and Education) grant, he built it.

"I did all the labor myself, and the materials were under \$20,000. That included some monitoring equipment for data collection," says Mutschelknaus.

The end product is a 16 by 28-ft., 12-ft. high rear wall/front glazing with a half gable roof peak of 18 ft. He used triple-walled polycarbonate with an R-value of 3 to 4 (close to that of a house window) for the glazing.

"I used aluminum trusses for the south facing wall and wood for the north half," says Mutschelknaus. The width to depth is based on having the north side and roof shaded to reduce the amount of sunlight in



Shannon Mutschelknaus grows tropical fruits in this greenhouse equipped with an in-ground "climate battery."

the summer."

The half gable roof is designed to capture heat for the hot air intake heat exchanger. It also has passive exhaust vents on the vertical face. An electric fan pulls the captured hot air from the roof and pushes it through an in-ground heat exchanger in the climate battery beneath the greenhouse.

The greenhouse has been operating since January 1, 2020. Mutschelknaus was eating fresh lettuce from it in February and had tomatoes blooming in March. He devoted half of it to food production and half to tropical plants for sale. So far, it has met his expectations.

"It moved us from zone 4 to zone 10 in plant production," says Mutschelknaus. "My sensors demonstrated that on a sunny, cold day (-23°F) on February 13, it cost only 77¢ a day to heat. The day before it was 29°F and cloudy, and it cost only 20¢."

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Family Dairy Starts Organic Soap Business

"I was a stay-at-home mom on a dairy farm, caring for five children under 12, and I was searching for a way to energize myself and make the days more exciting," recalls Stephanie Tranel.

Stephanie is the wife of Travis Tranel, one of four first-cousin owners of Tranel Family Farms, a 2,000-acre, 600-cow organic dairy operation near Cuba City, Wisconsin. In just over a year, Tranel Family Farms Soap has grown from a simple idea into a thriving internet and retail-distribution business. The growing collection of bar soaps is now inventoried at more than 30 retail stores in Wisconsin and Iowa and mail-ordered by customers in 25 states.

The Tranel bar soaps have clever farm-themed names such as Pasture Perfect, First Crop and Purple Bounty to name a few. They're all manufactured in small batches in the Tranel's kitchen and cured in specially created wood molds that give bars a favorable shape and texture. All soap recipes begin with organic milk from the farm that's combined with pure lye and various fatty acids, "but not any of the toxic ingredients found in some popular soap brands," Stephanie says.

The twist that makes Tranel Family



Tranel bar soaps are made from organic milk produced on their farm.

Farms Soap products unique and aromatic is the organic ingredients grown on the farm: alfalfa and purple-bounty vetch from the fields, peonies and wildflowers from the garden, and clover from the pasture.

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Grow-It-Yourself Mushroom Kits

Before Jordan Jent got into the grow-it-yourself mushroom kit business, he tried other kits on the market. He wasn't impressed so he learned how to grow mushrooms himself before starting his business, Texas Fungus. He and Adam Cohen, his business partner, were supplying farmer's markets, restaurants and other wholesale customers until Covid-19 hit.

"We had to pivot to the retail market," says Jent. "We are pretty darn good at growing mushrooms, so we figured we could teach others."

Jent and Cohen took the knowledge and technology they had gathered and turned it into grow-it-yourself kits. In particular, they avoided problems Jent had experienced with kits he had bought.

"Mycelia are sensitive to light, temperature, humidity and CO2 levels," says Jent.

He explains that vacuum-sealed kits choke the mycelia, which need to inhale oxygen and exhale CO2. He adds that mass-produced kits may go through a chain of 4 to 5 brokers and distributors, extending delivery and stressing the mycelium.

"We ship our kits direct to customers," says Jent. "Plus, we use the same breathable filter patch on the kits as we use in our own production system."

Jent reports having shipped kits across the country, all with minimal marketing.

Texas Fungus normally goes through 15 to 20 strains of mushrooms each year, depending on what their chef customers prefer. The kits are more limited, with most larger batches prepared for kits consisting of 4 to 5 strains. While they can differ in makeup, one popular strain throughout has been Lion's Mane, known for its medicinal value.

"Lion's Mane has been our number one seller," says Jent. "The flavor is like lobster and crab with the texture of crab. However, most people buy it to grow their own medicine. It is extremely beneficial for cognitive brain health, rebuilding the central nervous system, preventing Alzheimer's, and for depression. Plus, it is loaded with antioxidants."



Jordan Jent with fresh mushrooms. His ready-to-grow kits are shipped direct to customers.

The Texas Fungus kits sell for \$30 for a 4-lb. bag of spawn. The spawn is mycelia spores mixed with hardwood sawdust, soybean hulls, and millet with a few added nutrients. The company produces its own spawn. Yield depends largely on the strength of the strain, but the company aims for a base yield.

Jent notes that a Lion's Mane kit should produce about a pound of mushrooms in the first flush, but may produce as much as a pound and a half.

After the first harvest, he advises soaking the kit in a 5-gal. bucket of water for half an hour. This repeats the process with a new flush of mushrooms.

"If you get a pound from the first flush, we've done our job," says Jent. "If you get more, great. Our goal is to under-promise and over-deliver."

The company is moving beyond fresh mushrooms and kits to offering pre-poured agar plates for people wanting to produce their own mushroom cultures. They also offer a humidity tent kit and mushroom growing classes at their farm.

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He Makes Knives From Sawmill Blades

Bruce Godlesky uses saw blades and other new and recycled metals to forge his Damascus steel knives. But to ensure quality, he doesn't use just any metal.

"I have access to a chem-lab to get steels tested. All steels have different properties," says the Apollo, Penn., knife maker, who avoids metal that doesn't have enough carbon. "High carbon steel is very attractive and gives you a good cutting tool."

For example, the 8-in. wide bandsaw blades he uses are high in carbon and nickel. Big round 52-in. sawmill blades that he has cut into strips (with a plasma cutter) have high nickel and chromium content so the metal stays shiny. He also has a power hammer to flatten 6-sided rod and cable used by the gas industry in his region.

Damascus knife-making is a process of layering steel that's forge welded and manipulated to get a pattern. Mixing different steel adds to the texture and design. For example, the shiny parts of his knives are from circular sawblades, while the dark lines come from steel such as 1095 tool steel.

"I make full tang knives with the steel going all the way through the handle, and hidden tang knives that narrow down and are epoxied so they are strong. All are tested. My last test is to chop through deer antlers with them. If they don't chip or crack they



Godlesky selectively uses bandsaw mill blades to make high quality Damascus steel knives.

are good to go," Godlesky says.

Besides the blades, Godlesky makes handles out of native woods such as curly maple and walnut, and he does his own leatherwork for sheaths and scabbards. He doesn't do custom orders, but has a variety of items on sale on his website.

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