PHOTO: BRENDA K. JOHNSON

Hebda Produce currently markets locally grown spinach year round from their high tunnel using passive solar heat. Materials around the plants block weeds and preserve moisture. They say that growing chemical-free is their objective in the high tunnel. A low tunnel is added over the spinach rows later in the season to increase temperatures for the plants.

Growers Learn To Extend Seasons With High Tunnels

BY BRENDA K JOHNSON
P&D Correspondent

PHOTO: BRENDA K. JOHNSON

Shown is the Hebda Family Produce high tunnel currently in use. According to Hebdas, the tunnel extends growing seasons and adds more diversity of crops that are grown.

Geoffrey Njue, Specialty Crop Field Specialist, SDSU Extension at the Sioux Falls Regional Center, led a two-day movable high tunnel construction workshop at Hebda Family Produce in Mission Hill in early November. A follow-up on high tunnel crop management for all growers is planned for spring. Vegetable and fruit farmers from South Dakota, and regions of North Dakota, Minnesota, and Iowa were invited to learn about and help construct a movable high tunnel on a three-position track at the Hebda farm.

Njue said that growers may learn about movable high tunnels, help construct one, and later observe tunnel crop management, thanks to a grant from the South Dakota Department of Agriculture funds from USDA specialty crops block grant, in collaboration with the host growers, Rena and Dale Hebda.

According to Njue, Hebdas also applied for a Natural Resources Conservation Service (NRCS) cost/share program, Environmental Quality Incentive Program (EQIP), for growers interested in high tunnels. The grant and cost/share contributed to the purchase of the 96 ft. x 30 ft. width movable high tunnel that workshop participants helped construct. A three-position track is included.

HIGH TUNNEL BENEFITS

"Growing season is short, as we know, so the season can be extended both in spring and fall with a high tunnel," Njue said. "You can increase yield because you produce for a longer season. Crops grown in high tunnels tend to be better quality and of higher yield than those in the field because you control the environment. Crops are not exposed to the elements and are provided the irrigation and nutrients needed. Enclosed environment helps in better management of diseases and pests. Because you control the environment, the yield may be greater than from the field. Better quality and higher yields provides better returns for the grower."

MOVABLE OR FIXED HIGH TUNNEL

Njue said that movable high tunnels have several advantages over fixed high tunnels. "You can grow more crops in a movable high tunnel. You provide protection when a crop needs it, and move the tunnel to cover another crop. In late winter you might protect cole crops or a frost sensitive crop and then move it to cover tomatoes or peppers. In late fall, you might cover greens."

"With fixed high tunnel," Njue said, "you have limited crop rotation that helps prevent soil borne pests and disease. With the movable high tunnel, you can move the tunnel from space to space on a track. Less soil disease builds up."

"Fixed high tunnel soil is not exposed to rain or snow. When you water and fertilize, there can be salt build-up in the soil. Where soil is exposed to the elements for part of the year by the movable high tunnel, salts tend to be leached deep into the soil. Salt buildup year after year is toxic to plants." He notes that movable high tunnels cost more than fixed models.

GROWER INTEREST

"I was encouraged by the range of interest for uses of high tunnels by workshop participants," Njue said. "Many wanted to know how high tunnels work." Twenty attended from the three-state region. He hopes for more participants at the spring workshop. He noted special interest by vegetable or small fruit growers. "Strawberries can use the movable high tunnel for protection from frost when the plant flowers."

Four Season Tools was selected as the movable high tunnel business associated with the workshop. "This regional company has built the first movable high tunnels in South Dakota," Njue said. "They sent Mike Bollinger to represent the company and lead construction on the movable high tunnel. Mike is a grower in Decorah, Iowa, and is also knowledgeable about utilizing this structure with crops."

Website: http://www.small-farmtools.com/pages/our-farms

LOCAL GROWER HOSTS WORKSHOP

Hebda Produce, 30661 444th Ave, Mission Hill (605) 665-2806 now has two high tunnels. "For season extension," said Rena. She and Dale Hebda wanted the second high tunnel to be movable.

"As a grower, it allows for the sun and natural resources to renovate the soil once you move the tunnel off. Movable components give us diversity in what we plant," Rena said. "This was the first movable tunnel that Four Seasons Tools has put up in South Dakota. Technically two people can move the structure on the track to reset the high tunnel (on new soil)."

"We plan to move one section of the movable tunnel over some strawberries at critical points to increase production for extra heat and when fruiting." She said a second section of the movable tunnel will have cole crops planted in February or March. The third section of the movable tunnel is yet to be determined, possibly late season tomatoes.

"Currently we have spinach year round because it is hardy and keeps well once harvested. About April we'll have early garden crops such as lettuce and radishes."

Hebda Produce wants to expand their locally grown fall market from pumpkins, apples, and squash to also include local lettuce, cherry tomatoes, spinach, and other cole crops with the high tunnel. "We're in the learning process to find out what production brings best results. We're looking for markets such as institutions and stores that carry local foods that want early and late season produce."

GROWER TIPS

For fruit or vegetable growers interested in learning more about extending their seasons with some kind of crop cover, Rena Hebda shared suggestions from their own experiences. "Look at your area NRCS for resources such as the EQIP grant. Find out where a future high tunnel workshop will be and consider attending."

More SDSU Extension high tunnel activities are planned. "We'll have another movable high tunnel workshop at Hebda Produce in Mission Hill this spring on production and crop management with the tunnel," Geoffrey Njue said. "Possibly there will be a field tour in late summer or fall. We intend workshops at other locations as well." For inquiries about high tunnels and crop production, contact Geoffrey Njue at the SDSU Extension Sioux Falls Regional Center: (605) 782-3290 or email: geoffrey.njue@sdstate.edu

Natural Resources Conservation Service (NRCS) that serves your area offers a cost/share Environment Quality Incentive Program (EQIP) that may be of interest for those considering high tunnels to extend the growing season. For Yankton information, contact District Conservationist Mark Brannen at (605) 665-2662 Ext. 114

Historic Downtown Yankton Association businesses are discussing a weekly produce and craft market for Summer 2013 because the public is looking for fresh vegetables and a fun place to go. "We hope this is the year that we get vendors and the public to support our local market," said Barb Rohde, association president. Watch for more information."

MCT

The dawn redwood once thought to be extinct offers exceptional landscape performance including riveting fall color.

On Gardening

Dawn Redwood Offers Riveting Fall Color

BY NORMAN WINTER
2012, McClatchy-Trib. News Service

The dawn redwood is one of the most picturesque conifers we have at the Columbus (Ga.) Botanical Garden. It has been here for just over a dozen years and grown into quite a specimen. Its upright conical form is simply irresistible. Well sort of, that is for the first 50 to 100 years and then it may find it spreading on you. This fall its color was absolutely riveting.

You may want to grow it strictly for its botanical name, which is Metasequoia glyptostroboides. Can you imagine spouting that one to your neighbors? This is one of three trees actually classified as redwoods along with the giant sequoia, Sequoiadendron giganteum, and the coastal redwoods, Sequoia sempervirens.

Fossils found in several areas United States gave a pretty clear indication that it was probably extinct. Then in 1941 it was found in an obscure valley in Szechuan, China. The rest is history, now we have the opportunity to buy it at garden centers and grow it in our landscapes.

This is where I always like to start taxonomic fights. If it was here thousands of years ago is it a native? But seriously if you are a fan of dinosaur movies, then the dawn redwood is for you as it is one of the oldest living trees on earth. Its mature size can reach 70 to 100 feet high and 25 feet wide though old varieties in China are much taller. It has been known to reach 40 to 50 feet in height after 20 years of good growing conditions. These conditions are acidic soil, ample moisture and plenty of sun. This is exactly where we have ours, which is now slightly over 30 feet after 12 years. The dawn redwood is fairly quick to form a buttress at the bottom of the tree, which is most attractive in a landscape setting.

Container-grown trees have become so much easier to find at garden centers. While fall and early spring are traditionally thought of as tree planting times, container-grown stock allows us to plant around the year. The dawn redwood has a huge range from zones 4-8.

Correct planting however will get your tree off to the best start. Dig the hole no deeper than the height of the root ball. The height of the root ball is less than the height of the container because the nursery leaves space at the top of the container to hold water and fertilizer. Plant the tree so that the top of the root ball is level with or a little higher than the ground. Digging the hole too deep may result in the tree settling too low. The planting hole should be at least 2 to 3 times wider than the root ball. Measure the diameter of the root ball and multiply that number by 2 or 3, the wider the hole, the better. When you finish planting, use your hands to form a 3-inch-high mound or berm around the edge of the root ball with the remaining backfill. The mound will help make sure all the water goes right into the root ball this summer. This will usually hold about 5 gallons of water and can be removed after the first year.

At the Columbus Botanical Garden we have ours along a dry creek bed and in proximity to its cousin the bald cypress and not too far away from a cluster of Japanese cryptomerias which are also stately conifers. The fall color of the deciduous dawn redwood is a great complement with the evergreen cryptomerias. If you are looking to add a tree then by all means consider the dawn redwood.

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