

THE DIRT



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NORTH DAKOTA MASTER GARDENER PROGRAM NEWSLETTER

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Tried and trustworthy tools are professionals' favorites

By Rachel Brag, rbinndak@gmail.com

Tools make our task of gardening easier and more productive. Certain tools become a favorite for one reason or another: Ease of use, quality of performance, or it can be as simple as the way it fits in the hand.

After surveying a number of garden centers and professionals in the industry, it is apparent quality or unique tools make the list.

For the upcoming gardening season, you may want to make an update to your "tool shed."



Julie Nienhueser

Manager
Baker Garden and Gifts, Fargo

We would recommend Pruners by Dramm, especially to our customers because they are our staff's first choice. This line of pruners, trimmers and garden scissors have numerous good qualities. They are lightweight, good for any hand size and the handle grips are comfortable for long-term use. They are compact enough that they are easy to carry with you, yet they can handle a lot for their size. These pruners are an all-around great buy and you can depend on them season to season. The price range runs anywhere from \$14.99-\$23.99.

Barbara Laschkewitsch Research Specialist Department of Plant Sciences North Dakota State University

Laschkewitsch didn't have to think too hard about what is her favorite garden tool. It's an 11-inch long hoe that she's seen called the Nejiri Gama Hoe or the 'Handy Weeder'. This handheld hoe has a 5-inch blade that, if kept sharp, is great at skimming the soil surface to cut off small weeds right at the soil line. The tip can be used to dig around larger weeds or used to get weeds out of sidewalk crevices. Its size and shape also enable it to get into smaller spaces. Additionally, Laschkewitsch uses it in the greenhouse to help break up bales of compressed media. She's owned it for so many years that she can't remember where she got it from.



It is available online at various outlets, and is priced from \$12-\$20. There is also an 18-inch version. (Author's note: The photo is of the Nejiri Gama Hoe that Brag owns. It looks like it has had considerable use, which it has.)

NDSU EXTENSION SERVICE

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GARDENERS GONE wild

Master Gardener State Conference & ND State Horticultural Society

93rd Annual Conference

July 28-30, 2016
Grand Forks, ND

Dr. Todd P. West

**Associate Professor of Horticulture
Horticulture Undergraduate Program
Coordinator**

**Woody Plant Improvement Program Director
Department of Plant Sciences
North Dakota State University**

West has a favorite tool, but would like to expand its use beyond the garden and to the landscape. One of his favorites is the Silky hand saw. Silky (<http://www.silkysaws.com/>) produces the highest quality hand saws for tree pruning. Silky is the brand used by nearly all tree care professionals. They are more expensive than brands sold at local box stores but they are worth the extra cost. There are quite a few models to choose from. West likes the Silky Zubat 330, which costs about \$75. This is some of the best money spent for pruning because it produces such nice clean cuts that heal very nicely.



Harlene Hatterman-Valenti

**High Value Crops Specialist
Assistant Department Head
North Dakota State University**

Hatterman-Valenti recommended the website of a recent survey on the top 10 hand tools every gardener needs: <http://allthingsplants.com/ideas/view/Trish/2570/The-Top-10-Hand-Tools-Every-Gardener-Needs/>. She thinks the voices of many across the United States are a better recommendation than she could ever give. Hatterman-Valenti has a hoe that has been sharpened so much (three sides) that it's less than four by two inches. If it had a name, it would be 'Old Faithful'. There isn't anything fancy about it, but it gets the job done, from making seed rows to killing weeds.

Todd Weinmann

**Horticulture Agent
Cass County Extension**

Weinmann's favorite tool is slow release fertilizer. He realizes it is not made of metal or wood, but it does save time and also provides a constant source of nutrition for plants utilizing it.

Esther McGinnis

**NDSU Plant Science Professor
Extension Horticulturist**

McGinnis has an ingenious use for a common item in most households: A power drill, electrical or cordless, for planting tulips. She uses the drill and a 2-3/4-inch diameter garden bulb auger to make the hole. By marking the auger you can accurately plant bulbs at the correct depth. Enjoy your tulips this spring but remember to save yourself time on your knees this fall by borrowing the power drill from the work bench and purchasing a garden auger.



Kathy Wiederholt

**Fruit Project Manager
Carrington REC**

Wiederholt exercises her horticultural muscles in her home gardens and at the NDSU-Carrington Research Extension Center, where she manages several acres of fruit plants. She prunes a lot of plants each year.

In the orchard, Wiederholt uses PX-S2 Bahco pruners (ergonomic, right-handed, small handle, medium blade) which are about \$60. They are just right for her long-fingered hands. The pruners have hand relief, which means the handle rolls in your fingers as you squeeze it. This really saves tendons when spending a lot of time pruning woody things. Larger sizes are available on Amazon, but she orders her size from MDT and Associates. Wiederholt says treat yourself to a Felco tool sharpener while you're at it. She uses #903.



Wiederholt carries the 300SS ARS brand shears around a lot in the orchard because they are light and handy. You can cut things that you shouldn't (like big twigs and fingers) without much strain, because they are sharp and tough. Wear gloves and be careful. They are super-duper useful for training grapes.

These come in a slightly longer version as well, but be warned that Wiederholt ruins a pair of the longer ones each year. Wiederholt needs to get into tight places in currant shrubs and she ends up cutting wood with the tips of the blades. This eventually separates the blades one-too-many times. The little ones are tougher, she said.

When cutting large branches out of a shrub or tree, Wiederholt likes her Bahco #396JT folding pruning saw. It cuts cleanly and easily and has a replaceable blade. This style is recommended for soft or green wood. Felco and Corona make saws, too, and at home Wiederholt has a Fiskars saw that she bought locally years ago.

Wiederholt's loppers are from Felco and she loves them.

The style that she has is 210C-60 with curved blades and carbon fiber handles. They are light and they have just the right curve. They are not cheap – about \$100-\$140. Wiederholt has a different Felco lopper with metal handles, which she has lent to coworkers. She would never lend them the 210C-60. She likes the 24-inch loppers; longer ones need to be opened too far and short ones require too much strength.



The above tools can be ordered from MDT and Associates www.mdtgrow.com, a vineyard supply company with great customer service and lots of handy items. They have a nice catalog but prices are not listed on their website.

One last thing Wiederholt couldn't do without: Soft gloves. She likes deerskin or goatskin. Even though it sounds ironic, Wiederholt is slightly allergic to many plants.

The sharing of ideas, suggestions and tips is why it is so fun to for gardening folk to gather and visit. Due to the inventive nature of gardeners, rest assured there will always be a new tool that will become a trusted favorite. Check out some of the above recommendations, you may find just the tool you've been looking to buy...and enjoy the upcoming gardening season.



Soil testing is often first recommendation

By Laura Kourajian, lkourajian@yahoo.com

Master Gardeners may frequently get asked for advice. After all, that's one of the purposes of the Master Gardener program – to extend the reach of the NDSU Extension Service.

Often one of the go-to recommendations is, "Have your soil tested."

Indeed, knowing your dirt is usually the first place gardeners growing blue ribbon tomatoes and homeowners looking to achieve an enviable green lawn should start.

While there are some nurseries throughout the state that offer quick-and-easy soil tests, the NDSU Soil Testing Lab is available year-round and offers thorough testing at a reasonable cost.

The routine soil check, which is recommended for lawns and gardens, includes testing for nitrogen (N), phosphorus (P), potassium (K), pH, soluble salt and organic matter.

A "Lawn and Garden Solutions" order form can be downloaded from the NDSU website at www.ndsu.edu/soils/services/soil_testing_lab/. The order form includes information for sending the results and billing, and also asks for where the soil sample was taken, what type of flower or vegetable will be grown in the soil, sun coverage and drainage.

The order form also asks for "Additional comments," and these additional comments are important to helping the folks in the lab help the gardener or homeowner, Christie Erickson, assistant lab manager at the Soil Testing lab, said.

She said it is helpful to know, for instance, whether manure has been added, how long that location has been used for a garden, whether it's in a low spot or a shady spot, what kind of sunlight it gets, and other incidental or significant information that can affect the soil.

If the gardener is having problems with growing a particular vegetable or flower, it is helpful for the scientists to know that, as well.

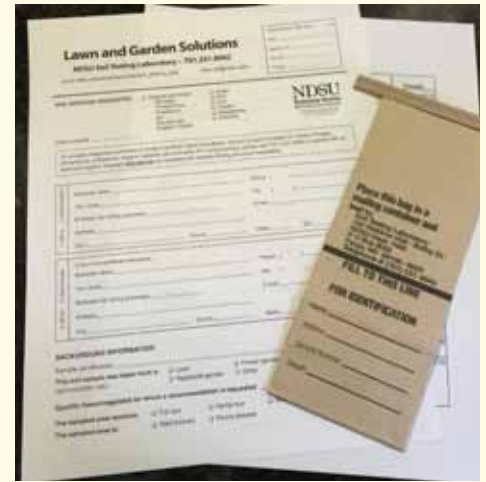
"The comments are important," she emphasized, and still "sometimes we have to refer them because all we can see are the numbers." A referral may be made to

the local Extension agent, who can make an in-person visit to the area to see what might be affecting the soil.

The lab's goal is to turn around all samples in under two weeks, though it usually is faster than that during the slower periods outside of April and May and September through November, Erickson said.

To have a soil sample tested:

1. Locate several (2-6) spots in the site to be sampled. Spots should represent site to be sampled.
2. Remove non-soil (grass, thatch, leaves, plastic, etc.) layer from the surface of sample location.
3. Use shovel or soil extraction device to remove sample to approximately 6 inches deep.
4. Place sample in a pail or container.
5. Repeat steps 2-4 for additional depths or remaining sampling spots.
6. Stir soil in pail so thoroughly mixed.
7. For dried sample (recommended):
 - Lay out on newspaper on the floor or table.
 - Spread soil sample on newspaper so soil layer is about 1-inch thick.
 - Try to break up large (golf-ball size or larger) clods in soil.
 - If possible, use household fan blowing on sample to facilitate drying.
 - Stir sample occasionally.
 - Allow sample to dry at least 24 hours or until soil color does not change when stirred.
 - Label plastic or paper bag with name, address, sample depth increment, and some sort of sample identifier, such as GARDEN, LAWN, etc.
 - Place at least one pint of dried soil in bag. Brown paper sealable bags, complete with a "fill to" line and address block, are available at local NDSU Extension offices. But homeowners and gardeners can also use other receptacles, such as resealable plastic bags. Just make sure to label the receptacle or container.



An order form, which can be downloaded from the NDSU Soil Testing lab website, must accompany every soil sample to be tested. The brown bag for holding the soil is available through local Extension agents, but gardeners can also use other receptacles, such as zip closure plastic bags.

8. Mail sample and order form to NDSU Soil Testing Lab, NDSU Dept. 7680, P.O. Box 6050, Fargo, N.D. 58108-6050.

For UPS, Fed Ex or to drop off your sample in person, the address is NDSU Soil Testing Lab, 103 Waldron Hall, 1360 Bolley Drive, Fargo, N.D. 58102. Erickson said people dropping off soil samples are allowed to park briefly in front of the building.

A routine soil check is \$18, and they will send you an invoice within a couple of weeks after your soil has been tested and you have received the results. In fact, they do not want payment included with the soil sample, since the soil testing and the billing take place in separate departments, according to Erickson.

Is there a "best" time of year to test your soil? Not really, Erickson said. Many homeowners and gardeners do it in the fall, when they might be trying to figure out why something didn't grow well in the growing season just ended. Others will sample in the spring, before they get started.

How often should a gardener test his or her soil?

"There are no hard and fast rules," Erickson said. If a gardener tests annually, he or she will know what the growing plants are taking from the soil each year.

If the gardener tests his or her soil once, it can serve as a baseline. In future years, if there are problems, the baseline sample can prove helpful in determining changes.

What do you think of that new white cuke?

North Dakota gardeners invited to participate in seed trials

By Laura Kourajian, lkourajian@yahoo.com

North Dakota gardeners have been offering up their opinions on vegetables since 2008 to help establish and update NDSU's annual list of cultivars that do well in our state, in our soil, in our weather.

This year, NDSU horticulturist Tom Kalb, who coordinates the trials, will be paying special attention to how North Dakota gardeners take to the new white cucumbers, white beets, warty pumpkins and a several other new cultivars being offered in the trials.

All gardeners are welcome to participate in the trials every year, and more than 200 of them do. It's not too late to participate for the 2016 growing season, and Kalb said seeds for the program are generally shipped out until the first week in June.

To participate, gardeners should go to www.ag.ndsu.edu/homegardenvarietytrials to check out what's available in the seed catalog, how to order seeds for the trials and read up on the requirements of the program.

Seed packets are \$1 each, and \$4 is charged for shipping.

Seeds are free for children who manage trials in the project. Surveys show children who participate in the project develop skills in science and enjoy healthier diets.

Each participating gardener receives two cultivars for a particular vegetable, enough seed to plant a 10-foot row of each cultivar. That length is used as it gives the gardener enough opportunity to get a fair look at each vegetable, but not overwhelm the gardener with too many of one vegetable.

"We only include two cultivars of any given vegetable because we learned most gardeners don't want to plant more than two cultivars of a given vegetable," Kalb said, asking rhetorically in his wry sense of humor. "What to do with four rows of wax beans, for example?"

The vegetables may be new cultivars being tested, or they may be long-time standards, though older cultivars generally don't make the cut anymore because breeders have developed superior types of those vegetables.

All cultivars are generally widely available, so if they make the "recommended" list, North Dakota gardeners should not have any trouble finding them in stores and seed catalogs.

The updated list for 2016 can be accessed at www.ag.ndsu.edu/homegardenvarietytrials/documents/recommendationsvegndsu2016.pdf

The packet each gardener receives includes a 10-foot string for measuring the rows, row markers and evaluation forms, as well as the seeds for the cultivars. Each gardener (household) can participate in up to seven trials.

The program is a research program designed to draw information about how various cultivars do in our state, and at the end of the gardening season, gardeners are asked to complete a simple evaluation form for each cultivar that considers germination, yield, taste and other qualities about the vegetable.

From that information, sent in from across the state at the end of the growing season, cultivars are added, or not, to next year's list of recommended vegetables for growing in North Dakota.


While there may be some slight differences between vegetables grown in, say, Crosby, in the northwestern corner of the state compared with Wahpeton in the southeastern corner of the state, overall, there isn't a difference in performance for most crops across the state, Kalb said.

"A strong performer in one region of the state often performs well in other regions," he said.

Late-ripening vegetables may be the only exception to that, he said. "For example, the earliness of 'Neon' pumpkin made a big impression on gardeners in the north, but less so in the south, where many pumpkin cultivars ripen in time."

This project has an impact on gardeners and their children.

Surveys conducted at the end of the year show 98 percent of the families who participate in the trials were introduced to



Vegetable Cultivars for North Dakota

Updated for 2016

The finest cultivars will lead to the finest gardens. North Dakota State University and its team of over 200 gardeners evaluate promising cultivars every summer. The following cultivars have excelled in these and other trials in the Midwest:

Selecting an outstanding cultivar can lead to a bountiful garden.

- ASPARAGUS.** Jersey Giant, Jersey Knight, Jersey Supreme, Purple Passion.
- BEAN.** *Bush:* Blue Lake 274, Crockett, Derby, Espada, Greencrop, Jade, Maxibel, Provider, Royal Burgundy, Serengetti, Strike. *Dry:* Anikara Yellow, Great Northern. *Lima:* Fordhook 242, Eastland. *Pole:* Fortex, Orient Wonder, Stringless Blue Lake S-7. *Soybean:* Envy. *Wax:* Carson, Gold Rush, Roedor, Soleil.
- BEET.** Boldor, Bull's Blood, Detroit Dark Red, Early Wonder, Merlin, Red Ace.
- BROCCOLI.** Packman.
- BRUSSELS SPROUTS.** Jade Cross E.
- CABBAGE.** *Chinese:* Blues. *Head:* Early Jersey Wakefield, Golden Acre, Ruby Perfection, Stonehead.
- CARROT.** *Orange:* Cumbre, Goldfinger, Hercules, Laguna, Mokum, Nelson, New Kuroda, Scarlet Nantes. *Other:* Chablis Yellow, Purple Haze, Rainbow.
- CAULIFLOWER.** Amazing, Cheddar, Snow Crown, Violet Queen.
- CORN.** *Normal:* Butter & Sugar, Jubilee, Seneca Horizon. *Sbrunken kernel:* Vision, Xtra-Tender 274A and 277A. *Sugary enhanced:* Bodacious, Delceterable, Luscious, Sugar Buns, Temptation. *Syngistic:* Allure, Cuppa Joe, Honey Select.
- CUCUMBER.** *Pickling:* Alibi, Calypso, Eureka, Homemade Pickles, Little Leaf H-19. *Slicing:* Dasher II, Diva, Fanfare, General Lee, Muncher, Orient Express II, Raider, Salad Bush, Straight Eight, Sweet Slice, Sweet Success, Tasty Green.
- EGGPLANT.** Black Beauty, Dusky, Fairy Tale, Millionaire, Orient Express.
- GREENS.** Hon Tsai Tai, Joi Choi, Komatsuna, Mizuna, Mei Qing Choi, Osaka Purple, Red Giant, Taisoi, Tendergreen, Vegetable Amaranth.
- KALE.** Black Magic, Red Russian, Vates, White Russian, Winterbor.
- KOHLRABI.** Early White Vienna, Kolibri, Kossak, Winner.
- LETTUCE.** *Leaf:* Deer Tongue, New Red Fire, Red Sails, Red Salad Bowl, Red Velvet, Royal Oakleaf, Salad Bowl, Slobolt, Tropicana. *Bibb/Crisphead:* Buttercrunch, Nancy, Nevada, Red Cross, Sierra, Skyphos. *Romaine:* Crisp Mint, Green Forest, Starhawk.
- MELON.** *Muskmelon:* Athena, Goddess, Solstice, Superstar. *Specialty:* Arava, Earli-Dew, Passport, Sun Jewel.
- OKRA.** Cajun Delight, Carmine Splendor, Clemson Spineless.

Cultivar selection checklist:

- ✓ Early maturity
- ✓ Flavorful
- ✓ Resists diseases
- ✓ Productive
- ✓ Widely adapted (cool soil, dry weather)

new varieties, and 85 percent of families reported more productive gardens.

Flowers have been included in trials in the past, but for 2016, only gladiolus bulbs are included. Galdiolus bulbs are limited to two trials and are \$1.50 each. One reason for limiting flowers, Kalb said, is the increased attention being paid to getting more vegetables into the American diet.

"With our limited resources, we have decided to focus more on vegetables and try to focus more on improving the diets of families in our state," he said. "Approximately 92 percent of children and 75 percent of adults in our state do not eat enough vegetables for a healthy diet."



Petunia Baskets

By Rachel Brag, rbinndak@gmail.com

B bedding plants make a big impact on the summer landscape on the campus of North Dakota State University in Fargo.

Anyone who has driven around campus has had the opportunity to admire the beautiful hanging petunia baskets that add color and cheer to the campus streets. These wave petunia baskets that decorate the light poles have folks (especially those of us who garden) wondering, "What do they do to make them so lush and full?"

Charlie Toms, assistant coordinator of landscape at NDSU, shared the process they follow and techniques used in producing these hanging beauties.

The process starts shortly after the first of the year with ordering seeds. Seeds are ordered in units of 100 and there are five or six plants per basket. They hang 140 baskets, so that is approximately 840 plants to start just for the baskets plus extra to account for loss during production.

Not crowding the plants allows the wave petunias to spread; up to 3 feet of the plant will hang down from the basket.

The wave petunias are hand seeded, while most of the other annual seeds grown for campus are seeded using a Seederman automatic seeder. Pelleted seed is required when seeding with the automatic seeder.

(Figure 1)

The seeds are planted in a medium made for germination and plug trays are used. The trays are placed in the greenhouse on a heated benches underneath a mist system. (Figure 2)

A boiler heats the water in the tubes to 126 degrees, and after it travels through the closed loop heat system it returns at 106 degrees.

(Figure 3)

Germination takes place in 5-6 days. The petunias stay in the plug trays until they are 3-4 weeks old and have started to developed their second set of true leaves. (Figure 4)

The petunia plugs are removed from the tray by pushing up from the bottom, which usually doesn't result in the trays being damaged so they can be used again. Toms said the plugs are then transplanted into cell packs of six. The petunias grow and remain in the cell packs for another 4 weeks.

They are planted in the baskets eight weeks after germination. Timed-release fertilizer is incorporated into the growing medium when planting the 24-inch baskets. (Figure 5) The



Figure 1

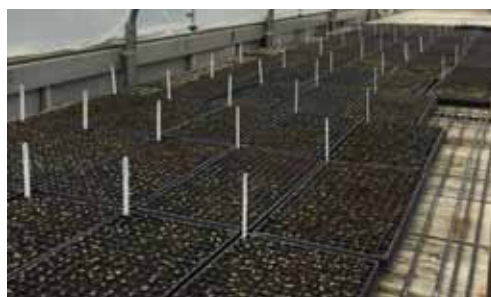


Figure 2



Figure 3

baskets are lined with sphagnum peat moss and filled with potting mix.

Toms said the petunia program, started by Wayne Larson, has been in place since 2002 and they have had to replace a few baskets, but the majority are still in use.

The moss is 1-inch thick in the basket with a thicker rim (up to inches) to keep the water from running out during watering.

The baskets are moved to another greenhouse where they hang until they are moved outdoors. (Figure 6) After 9-10 weeks in the baskets, the petunias are usually in full bloom and are really starting to fill out.

Toms said the baskets have never been hung before spring commencement. The baskets may be ready to go out, but the chance of cold weather makes early hanging too risky.

In 2015, Toms said the purple wave petunias grew fast and were too long, so they clipped the lower hanging stems before putting them



Figure 6



Figure 7



Figure 8

out to limit damage during hanging. A well-watered basket can weight up to 70 pounds. Toms said it takes two people to hang them due to the weight.

The big maintenance job is daily watering.

It takes about four truck loads (210 gallon tank) and approximately four hours to water just the hanging baskets on campus.

Toms said he would like to find an option to cut back on the hours dedicated to watering the hanging baskets.

Several municipalities in the region are using the H2O Labor Saver pots from Eckert's Greenhouse in Michigan with positive results. It only requires watering every three or four days due to the 2.46 gallon water reservoir, and the containers are guaranteed for 10 years.



The baskets also receive regular fertilizing during the season. They are fertilized three times a week with a 20-20-20 fertilizer at a rate of two cups per 210 gallons. To have the petunias in top shape for the start of school, they are put on a special fertilizer program three weeks prior.

It is as follows:

Three weeks prior - double the rate of fertilizer for one week (two times a day, three days a week)

Two weeks prior - apply a single rate of fertilizer every day (one time a day, seven days a week)

One week prior - back to regular feeding (one time a day, three days a week)

During the time that the baskets are beautifying campus, they do experience damage from the wind.

The worst damage will occur if there are strong winds in the first 8-10 days after being put outside. After that time, the stems get thicker and are more resistant to wind damage.

Toms said the watering wand can do the most extensive damage if it is rested on the plant during watering. The weight of the wand (8-foot copper pipe) breaks the trailing stems.

The only insects that have bothered the petunias are aphids. The aphids are attracted to the full and healthy growth which is a result of the fertilizer program they are on. Chemical drift has caused some damage in the past but is not a regular hazard.

The end of the season has been arriving later the past several years.

When the petunia basket program started, they were taken down around the first part of September.

Toms said in 2015 the baskets were taken down around mid October and still hadn't experienced a killing frost.

The petunias are daylight sensitive so they do not grow as robustly as the season nears the end. Upon their removal, the plant and moss is taken to the compost pile in Fargo.

Toms gave credit to the summer staff's commitment in maintaining the campus landscape plants and said that is the reason they look so beautiful. He said it is a team effort and is thankful for the dedication of all involved.

The next time you see a beautiful lush hanging basket of wave petunias on the NDSU campus (or any city street in our state) remember the dedication that it takes to grow and keep them in top condition.

Even on cloudy rainy day, these swaying baskets of color will brighten up dreary surroundings and lift the mood of all who pass by.

High tunnel greenhouse research study: Part 1

By Bethany Foyt, bethany@thepartnerchannel.com

As North Dakota gardeners know too well, the growing season is limited.

Heated greenhouses allow year-round production. Building and maintenance of greenhouses, however, is not an inexpensive venture.

They are usually made of expensive materials (glass or acrylic) to ensure year-round insulation. There is also much expense that goes into heating and electricity for those structures. After all this, a greenhouse can cost upward of \$50,000.

High tunnels are a more cost-effective answer to extending the growing season in North Dakota.

NDSU is beginning the first multi-location, high tunnel production research study to assist the state's 150 high tunnel growers.

Esther McGinnis, Extension horticulturist/assistant professor at NDSU, said, "We received a USDA specialty crop block grant to study high tunnel production in North Dakota. With 10 people on the project, we'll be studying high tunnel production in Williston, Absaroka, and Bottineau."

High tunnels differ from greenhouses in that they are non-permanent structures with usually no electricity or heating.

The frame is covered with a single layer of greenhouse plastic. The plastic is left on year-round and usually lasts about two to three years. Low-tech structure plus very minimal maintenance means that high tunnels can be 1/10th the cost of greenhouses.

"There's not a whole lot of capital to break into this sort of business," McGinnis said. "If high tunnels can extend the growing season by one month in early spring and another month in fall, this can be a very profitable endeavor for our state."

Supporting horticulture growth in North Dakota is one of the main goals for the high tunnel project.

Another area the study will explore is cut flower production for



florists. Producing high value and quality cut flowers, such as delphiniums, lisianthus, and dahlias, that are usually brought in from South America, is another cost-savings opportunity for North Dakota.

The research study also plans to identify which cucumber, tomato, and pepper varieties work best in North Dakota, customized to what location in the state.

Construction of the high tunnel greenhouse in Absaroka took place on April 29 and a report of this event will be shared in the next issue of The Dirt.

Resource Sites:

- <http://hightunnels.cfans.umn.edu/basics/introduction-to-high-tunnel-production>
- <http://hightunnels.cfans.umn.edu/basics/high-tunnels-in-minnesota>

Re-establishing ND shelterbelts

By Lila Hlebichuk, lilahl@yahoo.com

Much of what was once tallgrass, shortgrass or mixed grass prairie in North Dakota is now plowed for crop production. In these plowed fields, the soil no longer has protection from erosion provided by the root systems of the grasses and wildflowers of the prairie.

The drought of the 1930s led to the Dust Bowl with topsoil erosion measured in hundreds of tons per acre. By 1934, it was estimated that 100 million acres of farmland had lost all or most of the topsoil to the winds.

One of the New Deal programs of the federal government in the 1930s was the Prairie States Forestry Project to plant trees and shrubs to protect soils from wind erosion by reducing the force of the wind.

These rows of trees and shrubs are known interchangeably as shelterbelts or windbreaks.

"By the beginning of World War II, over 200 million trees had been planted on 30,000 farms. A total of 3,200 miles of windbreaks were planted in 33 counties covering over 44,000 acres," according to the South Dakota Department of Agriculture.

Potential benefits of shelterbelts include:

- Reduced soil erosion.
- Increased crop yields of 5 percent - 45 percent.
- Reduced home heating costs of 20 percent - 40 percent.
- Reduced winter feed costs for livestock.
- Directed snowfall capture, which can increase spring soil moisture and decrease road plowing costs.
- Improved water quality through filtering function.
- Improved or enhanced wildlife habitat and wildlife based recreation.
- Improved farmland aesthetics.

The average life of the plants in a shelterbelt is estimated to be 40 to 50 years. Many of the shelterbelts planted in the 1930s, 1940s and 1950s now have extensive dieback or have been completely removed.

NDSU states on its website on windbreak renovation it is estimated that "in North Dakota alone, there are approximately 55,000 miles of field windbreaks with 40,000 of those miles in need of renovation."

The incentive for the farmer to replant or restore shelterbelts has been less critical in wetter years when erosion concerns are minimal compared to the costs and care required in the first several years to establish the plantings, indicated Derek Lowstuter of the North Dakota Forest Service.

Additionally, the shelterbelts can impede the large equipment currently used in farming.

Lowstuter also stated the NDFS has historically offered technical assistance to private landowners in "assessing their windbreak condition and providing a written plan for renovating the windbreak to restore functionality."

Now, through the Forest Restoration /Windbreak Renovation Grant Program, the NDFS can also offer financial assistance.

Additional information can be found at: <https://www.ag.ndsu.edu/ndfs/programs-and-services/windbreak-renovation>

The climate and soil conditions in North Dakota vary widely from east to west and north to south.

Lowstuter said the best shelterbelts are diverse and may include conifers, small, medium or tall deciduous trees and a variety of shrubs,



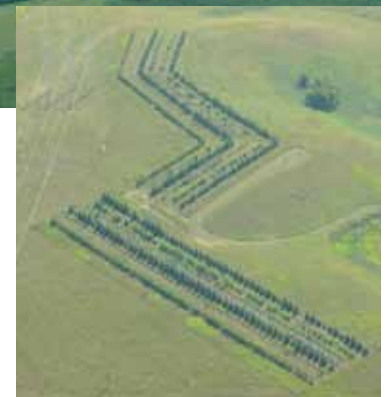
Windbreaks add value to your property for decades to come. All photo credits to North Dakota Forest Service.



Towner State Nursery grows conservation trees from local seeds.

some of which may bear fruit and flowers.

NDFS assists landowners in determining the best plants and management requirements for their area. The North Dakota Tree Handbook lists species, characteristics, care and maintenance.



Not all windbreaks are or should be planted in straight rows.

Species that may be included are:

Small Trees:

Apple
Crabapple
Chokecherry
Manchurian Apricot

Conifers:

Rocky Mountain Juniper
Eastern Red Cedar
Colorado and Black Hills Spruce
Ponderosa Pine

Medium and Tall Trees:

Honeylocust
Paper Birch
Linden
Ohio Buckeye
Hackberry
Boxelder
Bur Oak
Silver Maple

Shrubs:

Lilac
Viburnum
Caragana
Sumac
Silver Buffaloberry
Juneberry
Golden Currant
American Plum

Sources and further information:

- SD Dept. of Agriculture: www3.northern.edu/natsource/HABITATS/Windbr1.htm
- NDSU Forest and Range: www.ag.ndsu.edu/trees/whatnew/windbreak/
- ND Tree Handbook: www.ag.ndsu.edu/trees/handbook/ndhand-1.htm
- Farming in 1930s: www.livinghistoryfarm.org/farminginthe30s/water_02.html
- History, Dust Bowl: www.history.com/topics/dust-bowl

A personal account of becoming a Master Gardener when you start knowing nothing (or not much)



Guest Columnist:
Harold D. Rosenheim

I started to act on a dream.

Attending an NDSU Gardening day, I went to the Master Gardener table; this followed my circling it from a distance to muster whatever courage I imagined necessary.

The three or four women behind the table seemed friendly and their passion about gardening was obvious.

Here I was, 66 years old, recently retired and out of excuses for not pursuing gardening in a serious way.

I certainly had talked about it a great deal and with a great many. But my actual knowledge about gardening came close to none and this was the basis for my first question: "Does a person need to have a certain level of expertise to enroll in the Master Gardener program?"

I really wanted to confess to no expertise at all but I thought my phrasing covered my concern in less discomfoting manner.

The answer was delivered matter of factly without a hint of surprise or disdain.

I was simply advised that while most entering the program do have a great deal of gardening experience, "the program is very suitable for the novice with strong interest and motivation."

I enrolled.

The first day of class arrived and I was psyched. Things began very nicely - overview, plan, review of material passed out.

But things soon took a dark turn.

As I looked at the course manual (the massive "A Master Gardener Handbook"), my joyfulness cooled considerably. Chapters like "Plant Disease" and "Herbaceous Ornamentals" and "Integrated Pest Management" provoked that ugly feeling of facing demands terribly over one's head.

Was anyone looking as confused, maybe as fearful as me?

Au contraire. All the women (I was not only the least prepared student but the only male) were nodding their heads, interacting with gentle laughter at horticulturally witty remarks which I didn't understand, and moving their pens happily to jot a note or two on the distributed Power Point sheets.

I was in a room full of seasoned gardeners and for most of the class, becoming a Master Gardener was just a bit more seasoning!

Those first two weeks of class had many moments when I entertained thoughts of simply giving up this enterprise. It would not be the first episode of non-success and I could rationalize that at least, I tried.

I didn't give up and here is why:

- There is a very reasonable fee for the class but regardless of how reasonable, I am too cheap to let my money go to non-success.
- Exams are all open-book, which greatly supported my study.
- When I spent less time complaining to myself about the difficulties, I actually started to learn a few things.
- All of the instructors are genuine in their enjoyment of their profession and look like they have fun sharing their knowledge and interacting with students. I began to notice I was having fun, too.
- It becomes quickly apparent the horticultural community is made up of the least pretentious professionals I have ever met.
- Despite my remedial status, the classes were interesting and the interaction among the students and instructors was a wonderful learning experience.
- I found a number of publications including those by the NDSU Extension Service that greatly aided my remedial efforts.

I stayed.

Each new struggle became easier to deal with. For example, pronunciation of Latin (or scientific names) could feel like one's brain is

freezing up. It doesn't help when others utter them as if they are little snippets of a child's poem.

But these names are routinely used in horticultural discussions, and sometimes even serve as popular alternatives for common nomenclature.

The burning bush is that shrub turning bright red in the fall. It makes a startling presentation properly earning its common name. Yet, it is frequently referred to as *Euonymus*. When I began the Master Gardener class I was wondering what plant people referred to when speaking of *Echinacea*. It is the coneflower.

But what about assistance with pronunciation for *Euonymus* and *Echinacea*? There are well written, slim, inexpensive pronunciation guides. The Pronouncing Dictionary fits inside a pocket.

Fine Gardening is a monthly periodical written so neophytes can enjoy and easily assimilate a great deal of gardening news and information. Included in each issue is a pronunciation guide for each plant introduced that month.

How do you pronounce *Euonymus*? Yoo-on-ih-mus. Even if one is a bit off with oral expression, close enough is good enough for communication and sounding like one knows what one is talking about.

It worked for me!

For a gentle but very informative trial of learning pronunciation, take a gander at Fargo's gifted gardening columnist's (Don Kinzler) June 17, 2015, piece.

If you are still ambivalent about pursuing the Master Gardener program, not only will this exercise help get you over the hump, but if you are not already a regular, you will likely look to the Saturday Fargo Forum for Kinzler's weekly column.

With routine study and these added supports, I made it through the course.

But then I had the challenge of practical application through volunteer hours. The problem is that many of the volunteer opportunities assume the Master Gardener Intern actually knows much about gardening and in most cases that is true, but not always.

Some exceeded my capability. Often, it was clear from the start that I would not

qualify. It is also not a wonderful experience when one pulls a weed, like I did, and is helped to learn it was a prized plant. The help took the form of shocked indignation and a sense of astonishment that I was actually in the Master Gardener program.

I discussed my problems with program staff and peers, always generous with their support. In fact, I was even provided a mentor who gave me individualized attention and consultation, and still does.

The first helpful realization was that a great deal of gardening is weeding and I can do that, so long as I differentiate weeds from desired plants.

Weeding can be hard work but when done with other Master Gardeners and Master Gardener Interns and under the supervision of an attentive, responsive and intellectually generous gardener or professional horticulturist, one learns much and a good deal of the drudgery is reduced, sometimes to no drudgery at all.

Of course, sustained volunteering leads to hearing of new opportunities and the day may come when I will be ready for a more complex experience.

One day I learned a big lesson, this time in humility.

Volunteering right alongside me in a routine weeding effort were two highly experienced Master Gardeners with many years of living enriched by a lifelong love of gardening. If they could find time to join in this weeding effort, and view it as important enough to warrant their participation, maybe I needed to rethink my attitude about lowly volunteer opportunities.

If even now, you are wavering about pursuing your gardening dream and deep down know you want to, please think about aging. Those of us considered older are bombarded with information on aging and warned of cognitive deterioration.

When I talk with people older than me whom I admire, I find what the varied experts pronounce about our intelligence is best saved for a book on modern myth.

Go to any gardening gathering and look at the age range.

Attend a Master Gardener conference or activity and don't be surprised to see an 80-year-old as active as someone half that age. Gardening is one of those multi-faceted, intellectually complex activities that one never truly masters.

In this sense it is like music, chess, and virtually any of the sciences and arts. It is not surprising that the professional field of horticulture is viewed as an interplay of science and art.

Fulfilling a dream or even part of it, learning skills you thought were beyond you, meeting some of the most humble yet knowledgeable people you can imagine, and helping ensure your aging mind remains as rich and vibrant as possible -- this is your opportunity.

So really, what are you waiting for?

Those Master Gardeners at the table were right. Strong interest and motivation are the major prerequisites to becoming a Master Gardener, even when you start out knowing not so much.

How to start a garden club

By Barbara Keyes, West Fargo
Guest Writer

The oldest garden club in North Dakota was started in 1920 and the newest club in 2011.

Many gardeners are looking forward to several more being added to the roster in the near future. Two Master Gardeners took on the endeavor of compiling the names and locations of the state's garden clubs. They canvassed all NDSU Extension agents, and the response tallied 21 counties with established clubs. This list will soon be made available to Master Gardeners and Extension agents.

Three western counties share one garden club, and more than one club has been established in other counties. (There's a good chance there are gaps in this informational gathering process, so updates are appreciated.)

The following relates one gardener's journey to start a garden club. There's no formula written in stone, just ideas to ponder, use or expand upon to adapt them to your vision and all the possibilities to accomplish that goal. Each community and club will dictate what is required.

If you see your community could benefit from such an organization, the **first step** would be to set an intention to move forward on this rewarding enterprise.

STEP 2: Talk to people in your community to enlist their help in the endeavor.

STEP 3: Talk to more people. If you are on a quest to start a garden club, and bring up the subject often enough, you will find people of like interest who are willing to join you and support this goal.

STEP 4: Find a meeting place. (The director of the local public library let us have a room on a selected date that was less than a month away to give time to advertise.)

STEP 5: Advertise. The local newspaper editor was happy to publish the news of an upcoming community organizational meeting. The editor asked the questions and got the who, what, where, when and why for her article and put it in the paper.

You can also advertise on a local access cable TV channel. Get permission to put up posters in grocery stores and public buildings. There are also community announcements on radio and TV stations.



Those avenues, of course, can also be expanded to fit your community's situation. Keep on talking to more people and invite them to the meeting.

STEP 6: Get ready for the organizational meeting night. Write an agenda for the meeting and print some copies. Bring cookies and a beverage, find someone to take minutes, and have a sign-up sheet available so the attendees can share their contact information.

STEP 7: Come meeting night, about a dozen people showed up. We went around the room and introduced ourselves. We discussed starting a garden club, and the possibility started to unfold.

One person had access to a meeting room that was available. Someone volunteered to be vice-president. Someone stepped up to be the secretary. It was the consensus the instigator should be the president.

The group decided on the third Thursday of the month as the meeting date.

It's a process getting a group of strangers to move forward on a new adventure, but it happened because people with a shared interest came together with the intention of starting a garden club.

STEP 8: Invite the attendees to invite others to the next meeting date. Make sure everyone's contact information is on the sign-in sheet so a reminder can be sent out a week in advance of the very first meeting.

STEP 9: Find a speaker. An Extension agent or a Master Gardener is the perfect choice for a speaker. Let the speaker know the date, time and place and let him or her suggest a topic to present. Select one that is mutually agreeable and you are in business. Read through the condensed version of "Robert's Rules" and type up an agenda.

STEP 10: Advertise in the same media

as before to let the community know the date, time, place, speaker's name and topic, plus the fact this is an opportunity to get in on the ground floor of an exciting new club in your town. Notify the people on the list a week in advance of the meeting and remind them to bring a friend.

STEP 11: The first business meeting's objective is to name the club. After the attendees make that decision, tell them there will be a contest to develop a logo for the new club. A local garden center provided a prize: A \$25 gift certificate.

Everyone went home with an assignment to come up with a logo by the next meeting. The group will vote on the submitted logos at the following meeting.

Always bring a goodie and a beverage, plus a thank you note for the attendees to sign so it can be sent to the speaker. Let the attendees know their attendance is appreciated, too.

STEP 12: By the next meeting the members voted for their favorite logo and the designer got the prize.

The members talked about the direction they would like to take the club and thought a community service project would be part of it. Someone volunteered to coordinate the effort and find possible choices for the members to select at a later meeting.

We made a list of topics the group would like to learn about in the coming year to develop the program/educational ideas, along with possible names of speakers.

Ask for two or three volunteers to be on a planning committee to use those suggestions and find speakers.

Print up a tri-fold brochure that lays out the plan for January through December. Include topics, plant auction/exchange, picnic/potluck, community service project, garden tours, list of elected officers meeting

time, place and date; a simple mission statement, plus some clip art.

The brochure will be the advertising tool for members to hand out to their friends and let others know of the upcoming events. Give the brochure to the newspaper and other advertising media to get the word out prior to each meeting.

Get permission to hang it up on public bulletin boards and find someone to be responsible for a Facebook page that will let the public know what's going on.

Pass around a sign-up sheet for volunteers to be responsible for bringing a beverage and goodie for a month.

STEP 13: It took more than a year before the group decided it was time to have a treasurer, but everything happens in its own timing, which is perfect.

STEP 14: The club members need to take ownership of the club for it to thrive.

The job of president was eventually handed off to other capable hands.

The club will decide to have various committees as the need arises, such as a membership committee project to help the club grow. Various garden centers agreed to extend a 10% discount on plants to garden club members who presented their membership card at checkout time.

A few other businesses offered prizes so we could have a membership contest that required the members to recruit new people to join. A first, second, and third place prize was available for the top recruiters. Business sponsors and gardeners make for a win/win pairing; It draws more members to the club and the discount ensures the new, enthusiastic garden club members patronize that business.

A strong, vibrant garden club will be an asset to the community in many ways and for that, everyone can be thankful.



Have a story idea?

Email Laura Kourajian at lkourajian@yahoo.com or contact one of our writers directly.