Oct 2018

President's Patch

By President Michael Kircher

Well folks, as I write this (Sept. 19) it's 81 degrees where I grew up in Northeast Ohio, with a projected temperature high of 88 degrees on Friday. I appreciate the sunshine and temps in the 60's here, although at night it's getting colder. Our heating system hasn't come on yet; I turned on the thermostats to test it to see if the baseboard units still worked (they do). Our hot water is from the boiler, so I know that was still working. If you haven't had your heating units serviced in a few years, you might want to have them looked at. Anyway, we are seeing secondary blooms on many of our flowering plants that would normally be shutting down by now. Most of our trees or bushes haven't turned color or shed leaves yet, except for our Westland apple tree. That particular tree produced lots of large apples and probably decided to shut down for the season. My maple tree will have multicolor leaves soon, and of course all the birch trees are yellow. It's been a long summer in which we gardeners were able to accomplish quite a bit more than in last year's rainy season, and the warm, extended fall weather is letting us shut down our gardens at a more reasonable pace.

Our beehives are under intense attack every day from robbers, and probably will continue to be until we have a frost. I narrowed down the entrance on one hive to allow only one or two bees at a time to enter. I open the entrance farther in the morning for a while, so they can do housekeeping, cleaning out the debris and dead bees before the robbers show up. The guard bees on that hive are ferocious and very efficient at preventing intruders. On the other hive I installed a homemade removable screen that confuses robbers. The resident colony quickly figured out how to leave or enter, but the robbers land on the screen or hover in front trying to figure out how to get in. Those that get by the screen must contend with the guard bees in the restricted entrance.

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Inside This Issue

General Meetings
First Monday of the Month

Next meeting
Monday, October 1st at 7:00 p.m.
Location: Matanuska Telephone Company (MTA) Building, Meeting Room (in the basement), 480 Commercial Dr., Palmer, AK

Do not have to be a member to attend

Speaker/topic

The speaker we had previously scheduled to talk on hydroponics cancelled. We will now do a round table discussion on what went well and what didn't do so good in our gardens this summer. Please come prepared to share one success and/or one thing that didn't go as planned. Bring a picture or sample to pass around.

PEASANT'S PERSPECTIVE: BY CURT MUELLER, MASTER GARDENER

Photos submitted by the author

"Those leaves of brown came tumbling down, September." So go the words to the song. The season changes once more, and the burgeoning daylight of late winter becomes the ebbing of the long days of summer, to be observed more keenly in our northerly latitude. The cycle goes on, and we adapt. The time has come to ready ourselves and our digs for the winter season.

For those of us who store plants and produce for the winter, the peasant would like to put forth a couple of methods that have worked exceptionally well for storage. Onions are a favorite vegetable to add flavor and zing to a meal, and Marge and the peasant try to make them last until the new crop in the following year. It means growing enough to start with and then caring for them properly. They are harvested when the tops fall over, then laid out on mesh on a garden cart. Soil is sprayed off and the onions are left in the sun for the tops to dry out. The cart can be moved inside at night and during inclement weather. Once the tops are thoroughly dried the onions are bagged in mesh bags obtained from the kind folks at the grocery produce department. The dry tops are left attached and the onions stored upside down in the bags. Storage varieties such as Patterson and Redwing will store into the next growing season. Those with thick stiff stems and blemishes will have been rogued out and used first. Ailsa Craig, a large variety not grown for storage, will keep well through February. Storage temperature for onions in the 50-degree range with low humidity works well. A heated garage will fit those requirements.

Carrots will need to be stored at a lower temperature and higher humidity. A root cellar is ideal. The peasant has constructed a storage bin for root crops in a corner of the garage. One side of the bin is against a below grade north wall. The other sides and lids use four inches of foam board. Borrowing an idea from a neighbor, a loop of two-inch PVC pipe was run through the top of the bin. One end of the pipe goes through the wall to the outside and the other end opens into the garage. Convection current causes a very slow movement of air through the pipe and cools the bin. Temperature in the bin is monitored. Typically, it will hold at about 40 F in winter. If it drops to 37F the peasant stuffs a glove into the end of the pipe to stop the air flow. Root crops are harvested the first week in October, at which time ambient outdoor temperature is usually in the 40F range with freezing temperature at night. A squirrel cage fan is affixed to the pipe inlet to hasten cooling down the bin temperature and its contents.

Getting back to carrots, they store fairly well just being laid loose in a bin. If stored in sand, they will store longer and remain crisp. Those that are stored loose can be used first. the peasant uses a bucket with a series of eighth inch holes drilled in the side to allow some air circulation. A layer of sand in the bottom, a layer of carrots laid out but not touching, another layer of sand, and so on. The peasant uses sand purchased at a reasonable price at the local lumber yard. This is washed sand that still retains a small amount of moisture which suits the purpose well. Without colder storage it would be worth a try to store root vegetables in a cool part of the garage that does not go below freezing. Using sand should extend storage life there as well.

Thanks, folks.

Ailsa Craig onions with the tops drying in the sun

Alaska State Fair, Inc.

Rebarchek Farm Restoration Project Update

Our club voted to take part in the Rebarchek project. We will be discussing the nature of that participation in future meetings with the goal of having a plan by spring. Please refer to the September 2018 newsletter for more details.

A note from LaMarr Anderson, who presented the Rebarchek Farm Restoration Plan at the September MMGA meeting:

"Michael, Thank you again for allowing me to present to your club last evening - a full room of engaged and friendly folks. I enjoy the opportunity to be with you and your club (excepting the part about the in-operational projector!)

Attached for your and the club's information is our currently intended Standards/Rules document I highlighted, in answer to some of the land use questions. We are open to suggestions or changes so feel free to offer received input from your club members.

Presuming the Master Gardener's Club decides to collaborate and be part of this project, we will draw up a land-use 'lease'/user agreement, with the language I highlighted last evening regarding the indefinite land use promise for the designated land area, with no lease charge."

LaMarr

Below are the Standards/Rules document LaMarr refers to in his email.

Rebarchek Agriculture Park Standards and Guidelines

Land Use Guidelines

- Farmers will strive to work within the standards set by the National Organic Program (NOP). Application of herbicides, pesticides or fertilizer outside of these NOP standards will require management approval prior to each application.
- Farmers are required to keep an "Input Log" of all products applied to their fields and crops for the duration of their lease.
- The use of cover crops is encouraged to protect the soil, suppress weeds and add organic matter to the soil.
- Crop rotations are recommended to assist in soil fertility and weed suppression.
- Farmers will adhere to the water usage guidelines which include a watering schedule and prior approval of irrigation systems. No permanent changes can be made to any aspect of the water system on the Rebarchek Park.
- Farmers are expected to leave the soil nutrition and general condition as it was received. A review will be done of the condition of the field at the beginning and then at the end of the lease to ensure the baseline condition. Removal of all farm supplies and plant materials are required.

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- The leased property must remain free of problem weeks such as bird vetch, dandelions etc. throughout the duration of the lease.
- No structures of any kind, including temporary canopies, can be erected on the leased farm property without prior approval. Approved structures that are temporary will need to be removed before 10:00 pm on the day erected.
- No permanent fencing can be erected on the leased property.
- No starting, growing, drying or processing of marijuana can take place on leased property.
- The management of the Rebarchek Park reserve the right to ask the farmer to remove any temporary structure that is deemed a safety risk, could impact the outcome of other farmers, does not meet the mission and definition of farming or negatively impacts the role of the farm in our community.
- There is to be no private or commercial vehicle driving on the fields or interior roadways. Farming equipment is allowed on the designated interior roadways. Parking is available in designated areas outside of the Rebarchek Park.

Program Guidelines

- All farmers are encouraged to carry a liability insurance policy that covers both general and product liability.
- Farmers will sign a lease before beginning production on the farm land.
- Children must be closely supervised while on the leased property (youth under the age of 15). This is for the safety of the children and ensures that other farmers or property of the Rebarchek Park are not subject to any damage or delay in production.
- Farmers will not enter another farmer's leased plot without permission.
- Farmers are not allowed to bring pets onto the Rebarchek Park.
- Farmers are responsible for any visitors or helpers they bring to the farm.
- There is no smoking or vaping on any area of the Rebarchek Park.
- Drinking of alcoholic beverages is not allowed on the site.
- Open flames and fires are not allowed in the fields.
- Farmers must remove their trash from the farm on a daily basis.
- All farmers will commit to working cooperatively with the management at the Rebarchek Park through communication and maintaining a good payment standing.
- Once the farm has a fenced-in area with gates, farmers must maintain the integrity of the perimeter by closing up any gates they have opened.
- The Rebarchek management reserves the right to implement "fines" for those who violate agreed-upon guidelines.

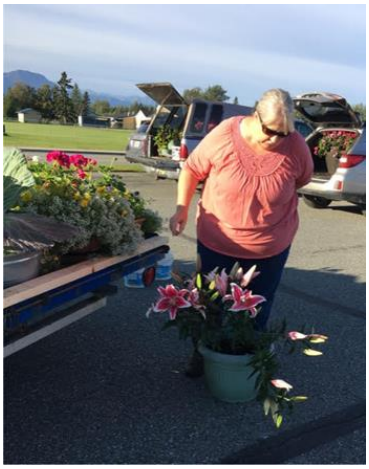
The Master Gardeners Won!

By Curt Mueller
Photos contributed by Eva Cohnen-Brown and Deb Caillouet

The peasant is happy to announce that the MGs have won first place overall and first place in the Community Service Organization category for our entry in the Alaska State Fair Parade. Let us then give credit to the folks who made it happen.

Lenita and Chuck Deda contributed so much in the way of plant material. They'd had an outdoor wedding at their place and made the many flower plants available to us for our float. They cared for these so well and kept them under a carport, so the flowers would survive the frequent deluges of August. Chuck loaned us his snow machine trailer and spent a couple of hours the day before the parade making an adapter, so the trailer would ride level when hooked up to the towing tractor. The help these people provided had much to do with having a successful float. Thank you so very much for your participation.

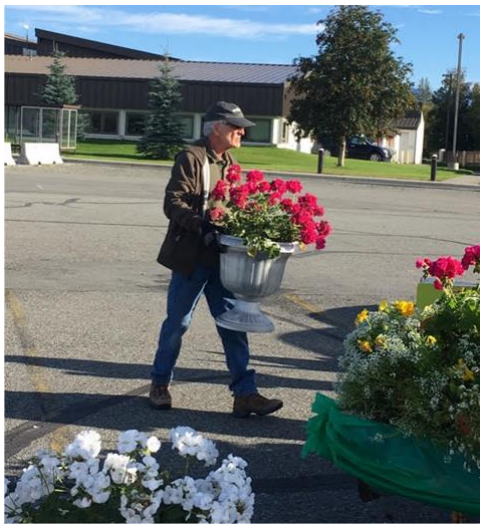
Deb Caillouet provided her beautiful lilies, pelargoniums, and argyranthemum to provide balance and height to the plant material on the float. Her plants were in huge containers that took some heavy handling to get in place. She is to be commended for supplying the much-needed height and depth to our effort. For her to handle this material was no easy task, but it contributed so much to the final product. Thank you, Deb, for your patience and help in assembling the float.



Lydia Wood offered a rosebush which she had dug out and put in a container. It was unfortunate that the bottom of the container was about to give way and we decided we'd best not use the rosebush. Thank you, Lydia. Maybe another time will work better.

Stephanie Rehak and her patient and charming daughter, Leah, graced the float by riding it. They manufactured oversize books for a bit of levity. Stephanie was surrounded by all the flowers and vegetables. Her book cover read "How to Grow More Stuff." Leah's read "How to Escape Weeding." They also helped assemble and demobilize the float. A hearty thank you to two nice ladies.

Phyllis and Michael Kircher contributed some of their flowers to the cause. By the way, their home is on the list of Palmer's most beautifully kept. They helped very much in getting set up. Thank you, Phyllis and Michael, for your support.



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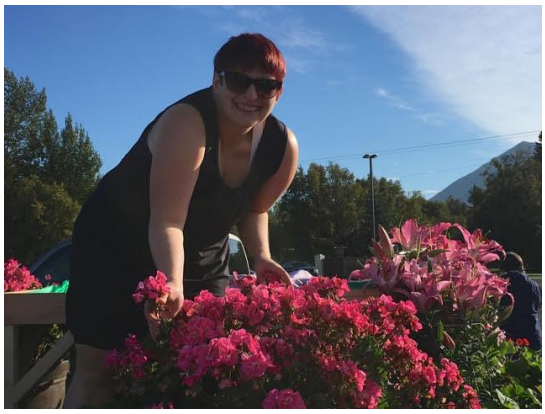
Eva Brown pitched in with assembly and hiked over to the Palmer Depot to get our number and parade position. You are sure to see the photos from her ever-present camera. Thanks for your dependable help, Eva.

The peasant knows how fortunate that Marge is his wife and best friend. She has been involved in preparing for the float since last March when she seeded OS Cross cabbage. She has cared for our plants all summer, and they want for nothing. She also helped in the setup and harvested vegetables from the greenhouse and garden, these to be displayed on the float. Marge and Ginger Sweeney planted an OS cabbage in a washtub last May, said cabbage ending up on the float. Ginger offered her help and some of her flowers but had another commitment on parade day. Thank you, kind ladies!

The peasant's daughter, Marta, provided her invaluable help and creativity. How fortunate the peasant is, indeed? Thank you for providing your skills, daughter.



Certainly, the peasant's son-in-law, Paul, and daughter Dawn deserve a hearty thank you for doing a spiffy paint job on the Farmall Cub. They really made it sparkle.

All these people pitched in to make our effort a success. We won, by golly, we won!

The Real Dirt on Soil: Part V – The Basics of Soil Fertility, Nutrients and Plant Nutrition

By Joe Moore, Master Gardener Candidate

Soil fertility, or the ability of a particular soil to produce plants, depends on many inter-related factors. These factors include chemical properties, structural properties, and biological properties. Structural properties have been discussed in previous articles. The basics of chemical and biological properties are discussed here.

Nutrients

Most plants require 17 nutrients for proper growth and development (***Figure 1***). Carbon, hydrogen, and oxygen are provided by the atmosphere and water. The remaining 14 are all provided by the soil. Nitrogen, phosphorous, and potassium are the primary soil nutrients as they are used in the greatest amount and are usually the first to be deficient. Calcium, magnesium, and sulfur then follow in the amount used and are secondary nutrients. The remaining nutrients are micronutrients or trace elements and are required in only very small amounts. Plant growth is controlled not by the total amount of nutrients available, but rather by the nutrient that is most limited or not in adequate supply.

From Air	***From Water***		
Carbon (C)	Hydrogen (H)		
Oxygen (O)	Oxygen (O)		
From Soil			
Primary Nutrients	*Secondary Nutrients*	*Micronutrients*	
Nitrogen (N)	Calcium (Ca)	Boron (B)	Manganese (Mn)
Phosphorous (P)	Magnesium (Mg)	Chlorine (C)	Molybdenum (Mo)
Potassium (K)	Sulfur (S)	Copper (Cu)	Nickel (N)
		Iron (Fe)	Zinc (Zn)

Figure 1. Essential Soil Nutrients (adapted from Research and Extension, Kansas State University)

Soil nutrients are naturally derived from the weathering of soil minerals and from the decomposition of plant material. Some plants can utilize nitrogen from the atmosphere if certain soil microorganisms are present. Soil minerals weather and slowly release nutrients for plant use. Organic nutrients are derived from the decomposition of organic matter. Organic nutrients must be ***mineralized*** or converted to an ionic form by soil microorganisms before plants can use them.

Plants obtain nutrients from the soil solution, which consists of water and nutrient elements in ionic form. The soil solution contains both positively (cation) and negatively (anion) charged nutrient elements. The surfaces of soil particles are chemically active. Those soil particles that have a large surface area - primarily clay, very fine silts, and decomposed organic matter - have a negative charge and attract and hold or ***adsorb*** the positively charged cations. Cations adsorbed by these soil particles remain within the root zone and are not easily lost through leaching. They are considered to be immobile elements. Negatively charged nutrient elements (anions) are not normally adsorbed by the soil particles. Rather, they remain in the soil solution and are susceptible to leaching from the soil. They are considered to be mobile elements.

Cation Exchange

As plant roots uptake a specific nutrient cation from the soil solution, the amount of that cation in the soil solution will decrease. However, the cations adsorbed by the soil particles can "exchange" with other cations in the soil solution (***Figure 2***). Thus, the adsorbed cations can replenish the ions in the soil solution.

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This process is called ***cation exchange***. The ability of soils to attract and hold positively charged nutrients is a key property in soil fertility. Occasionally, in some soil types, certain cations can be adsorbed very tightly by the soil particles and become "fixed" or not readily exchanged. Phosphorous often becomes fixed in soils containing volcanic ash, resulting in very low levels available for plant uptake. This is a common occurrence in the ash-influenced soils of the western and northwest portions of the Matanuska-Susitna Valleys.

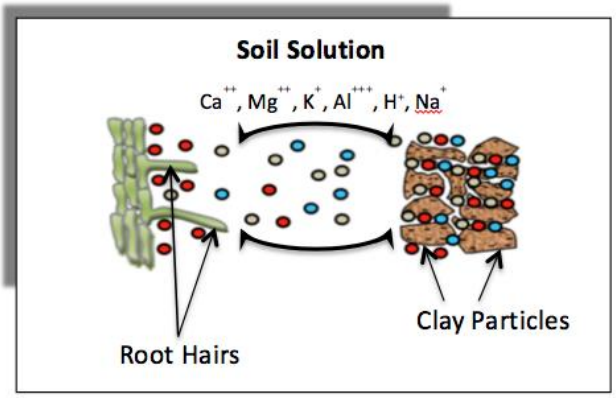

Figure 2**.** Schematic diagram showing exchange of cations between the soil particles and the soil solution, and the movement of these cations from soil solution to roots. (Source: University of Georgia Extension Service)

The total number of negative charges on the particles in soil that can adsorb nutrient cations is the ***Cation Exchange Capacity (CEC).*** Note that CEC indicates the ability of a soil to hold and supply cations to the soil solution. It does not indicate how much of any nutrient is actually present. Texture and organic matter content strongly influence the CEC. Soils that have particles with large surface area have higher CEC. CEC is highest in organic matter and then clays. CEC is lowest in sandy soils, especially those with low organic matter content.

Nutrients can be added to the soil through the addition of various types of organic matter or manufactured fertilizers. Organic matter must be decomposed, and the organic nutrients mineralized into an ionic form before they are available for plant use. Nutrients from organic matter are released slowly but are effective over a long period. Manufactured fertilizers supply nutrients in the ionic form readily available to plants. They can have a rapid effect but are not usually long-lasting.

Effect of Soil pH

The CEC of soil organic matter and some clay types will vary depending on the pH level, with CEC generally lowering as pH lowers. Some nutrients from soil minerals are only available for plant uptake at certain pH levels. At low pH levels, some elements that are toxic to plants, such as aluminum, may be released to the soil solution. The pH level also affects many microbial processes including organic matter decomposition and nitrogen fixation.

Most common crops grow best in a soil within a pH range of 5.5 to 7.0, as most nutrients are readily available within this range. Some specialty crops may grow better under higher or lower pHs. ***Figure 3*** shows average near-surface pH levels, organic matter content, and CEC for undisturbed soils across the Mat-Su Valley.

General Location	***Soil texture***	***Depth***	***Avg. CEC*** *(meq/100g)*	***% OM***	***Avg. pH***
Palmer	peat	0-2 in	60-95	65-90	5.0-6.0
	silt loam	2-5 in	15-30	6-9	5.6-6.5
Pt. MacKenzie	peat	0-3 in	15-50	35-90	3.6-5.0
	silt loam	3-5 in	5-15	2-6	4.5-5.5
Willow	peat	0-1 in	15-50	35-90	3.6-5.0
	silt loam	1-4 in	10-20	2-6	4.5-6.5

Figure 3. Average CEC, Organic Matter (OM), and pH for representative undisturbed soils in the Mat-Su Valley (adapted from the *Soil Survey of the Matanuska and Susitna Valleys, Alaska*, USDA-NRCS)

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Effect of Microorganisms

Microorganisms have a major role in soil fertility. Some plants, such as legumes, interact with rhizobia bacteria and can convert atmospheric nitrogen into ammonium nitrate, which is then available to plants. Mycorrhiza fungi form a symbiotic relationship with many plants. The plants provide sugar and starches to the fungus. The fungus, in return, interacts as an extension of the root system and increases the plant's access to nutrients. Soil microbes are essential to the decomposition of organic matter and help convert organic nutrients into the ionic forms needed by plants.

Soil Testing

Periodic soil testing is essential to understanding the nutrient status and needs of your garden plants or crops. Application of soil amendments, including manufactured fertilizers, lime, and organic materials should be based both on the properties of the soil and what the crop type needs. Applying fertilizer or other amendments that are not needed can waste money and have a negative effect on plant growth. Fertilizing in excess of the soil's CEC can result in leaching of nitrogen, phosphorous, or other nutrients into the water table.

Selected References

Soil and Fertilizer Management for Healthy Gardens, Cooperative Extension Service, University of Alaska Fairbanks

Managing Alaska Soils, Cooperative Extension Service, University of Alaska Fairbanks

Cation Exchange Capacity and Base Saturation, University of Georgia Extension Service

Soil and Plant Nutrition: A Gardener's Perspective, Cooperative Extension, University of Maine

2019 Speaker/Program Coordinator Needed!

We need someone to raise their hand(s) and volunteer to coordinate the speakers and programs for our 2019 meetings. If you would like to volunteer, please contact one of the board members or send an email to: matsumastergardeners@gmail.com

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Something to think about as we come up on the end of the year is the officers for next year. As you know I agreed to serve as president for one year. There are members who are fully qualified to take over my position and should do so. Quite frankly, I would like to see a different president every year. (Hmmm). As a matter of fact, we need a volunteer to chair and recruit members for a nominating committee. Someone needs to step up at the October meeting, so think about it. Remember, this only requires a bit of work to make suggestions for the positions from among our members. Of course, any of the members can also make suggestions. We also need to start coming up with ideas to put our mark on the Rebarchek 1/8-acre plan.

Enjoy the weather and remember what the poet Robert Herrick said:

Gather ye rosebuds while ye may,
Old Time is still a-flying,
And this same flower that smiles today
Tomorrow will be dying.
Unless it's hardy to zone three.
Then next year it will be free.

Minutes of Master Gardener Meeting, September 10, 2018

Submitted by Secretary Dorte Mobley

Meeting called to order at 7 by Michael Kircher. He passed around a thank-you card from the Pioneer Home.

Treasurer report: We have $12,777 on the accounts. No questions about the report. Deb proposed we send the Fair another $100 for the winners of the school class entry in crops to encourage other classes to participate. Motion was seconded and passed.

There were no minutes from last month since we didn't have a real meeting but went to Dorte's house to learn how to make hypertufa troughs from Jaime Rodriguez. Pictures were taken by Eva and descriptions provided by Deb and put in the newsletter.

Curt Mueller gave a report on the State Fair Parade float. Float was fun to make, and he got flowers from several people to help decorate it. The club took first in Community Organization group and first overall. Curt has an idea for next year already and will present it in the spring.

Garden tour went well – Five gardens were toured and thank-you cards were sent to the people who opened their gardens to the tour. Cathy passed her card around.

LaMarr Anderson from the State Fair presented an overview of the Rebarchek Farm project. The farm has the first Colony house that was built in 1935 and it is in the process of being restored. There will be an event center barn for people/organizations to use for meetings, weddings, events and land to use for demonstrations, experimentation and other things. One-quarter to one-half acre lots have been surveyed. The Master Gardener group can get 1/8 acre for free to create a garden. Kristina made a motion to approve our participation. Motion was seconded, and motion passed with 14 in favor and 1 opposed. Some discussion was had on how we want to develop this land and we will have all winter to decide.

Kristina suggested we make a thank you card to Becky at the State Fair for all the hard work she has done over the years to make the flower displays absolutely amazing.

Dorte made a short presentation on what she does with dahlia tubers to pack them away for the winter.

Meeting adjourned at 8:45 pm.

STORING DAHLIAS: BY DORTE MOBLEY, MASTER GARDENER

Drawing submitted by the author

To start my dahlias, I take some flats with soil and lay them on top of the soil. I keep it as moist as I would do if they were planted. When I see signs of roots growing, I plant them in a pot. This way I can keep an eye on them and put them out in the compost if they should start to rot.

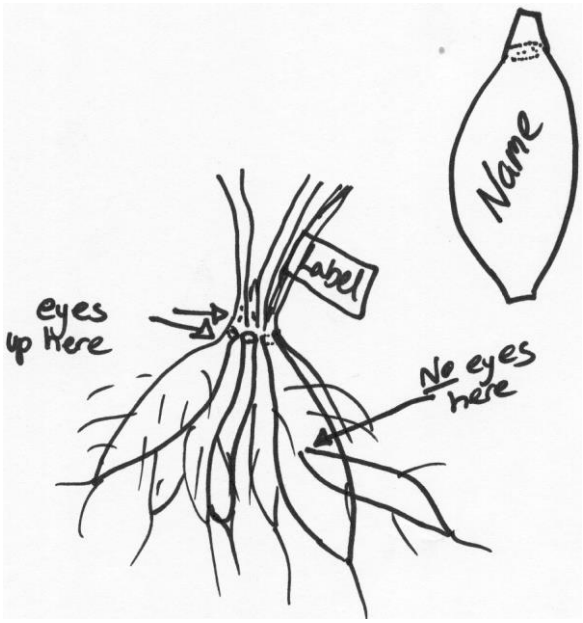
When I plant my tubers in the spring, I both put a stake by them with the name on it, but I also make a "map" of them. That way it is easier to label them in the fall. Sometimes when frost is just around the corner, I take some labels and with a fat permanent Sharpie write either the name of the dahlia or, if I do not know this, the description (can be tall yellow decorative or pink from the neighbor's or something). I wrap the labels around the sturdy stems all the way down by the ground, so when I cut the plant down they are still there. When the leaves and blooms are all brown and have died from frost, I dig up the tubers, cut the stems to 4-6 in (watch out for the labels) and hose all the dirt off. I let them lie and dry out for a day or two (or if I don't get time to do them, a month or two – but then they do dry out too much).

In my garage I set up a table with a cutting board, a bucket with bleach-water (about ½ - 1 cup to a 5-gal bucket) some newspapers and the cutting tools. This can be kitchen knives, sharp scissors, pruning shears (for tough stems) or hobby knives. The knives must be very sharp for clean cuts, and I have found a scalpel works great – just don't twist the blade because they break easy. Scalpels can be ordered in medical supply stores. Just watch your fingers – and get them packed far away if you have kids! I also have a permanent marker (fat Sharpie), white Styrofoam containers and some vermiculite ready.

If you look at the tubers you will see that they kind of spread outwards from the center. Some have kind of multiple centers, and basically, I just pull on the stems to get those apart. Up there where the stems come up, the "eyes" are located. It can be on the "bottom" of the area, so if you turn the clump upside down you might see them. You MUST have an eye on the tuber for it to start sprouting. I turn the clump around, cut off all roots thinner than a finger (including all the small tread thin roots) and remove any damaged or rotten parts of tuber. Yes, you can cut the bottom off the tuber, so you have a neat end on it!

I then start to cut the tubers apart. If you look closely at them up by the top you might see an area that looks a little swollen and has bumps on it. Or you can see small new growth thinking about starting to sprout (it might be a little bit up the stem). On some of the tubers the "eyes" are a little reddish. You now cut so you have eyes on all the tubers you want to save. I use kind of a triangular cut, so I can get many eyes on lots of tubers. Some tubers have an extra tuber hanging from the side of it – they do not have eyes on them!

After cutting them apart, I write the name on each tuber – this is possible if the tuber is relatively dry and you don't press too hard with the marker. Then they take a bath in the Clorox water until I am ready with the next clump. I let them dry out on the newspaper for a couple of days before I lay them in the Styrofoam coolers layered in vermiculite. Do not let them touch each other, that way if one goes bad it will not "take the others with it." I check the tubers around December and then I begin to look for signs of them starting to grow around the beginning to middle of February. I do not have a cold storage, but must keep them in the heated garage, so they always start too early for me. If you can keep them around 35 - 40 degrees F, it is best.



During this whole process I try to remember that if I only get one plant from each clump, I have not lost anything. And if I lose the whole thing, oh well, next year I can get another one from the store.

Garden Links

Alaska Botanical Garden
http://www.alaskabg.org/

Alaska Center for Conservation Science
http://aknhp.uaa.alaska.edu/botany/

Arbor Day Foundation
www.arborday.org

Alaska Division of Agriculture
http://dnr.alaska.gov/ag/

Alaska Farm to School
https://www.farmtoschoolalaska.org/

Alaska Garden Clubs
http://www.alaskagardenclubs.org

Alaska Grown Source Book (online)
http://dnr.alaska.gov/ag/sourcebook/sourcebookindex2016.html

Alaska Master Gardeners Association, Anchorage
http://alaskamastergardeners.org/

Alaska Master Gardener Blog
https://alaskamastergardener.community.uaf.edu/

Alaska Native Plant Society
http://www.aknps.org/

Alaska Orchid Society
http://www.akorchid.org/

Alaska Peony Growers Association
http://alaskapeonies.org

Alaska Peony Society
https://alaskapeonysociety.wixsite.com/alaskapeonysociety

Alaska Pioneer Fruit Growers Association
http://www.apfga.org/

Alaska Plant Materials Center
http://plants.alaska.gov/

Alaska Rhodiola **New**
https://www.akroseroot.com/

Alaska Rock Garden Society
http://www.akrockgardensociety.org/

Good Earth Garden School
http://ellenvandevisse.com/

Grow Palmer
http://growpalmer.org/

Integrated Pest Management Program
http://www.uaf.edu/ces/ipm/

Junior Master Gardeners
http://www.jmgkids.us/

Landscape Plants for Alaska
www.alaskaplants.org

Mat-Su Borough Rain Garden Program
http://www.matsugov.us/environment/raingardens

Mat-Su Master Gardener Website
www.matsumastergardeners.com

Master Gardener Research Link
http://search.extension.org

Master Gardeners of the Tanana Valley
https://fairbanksmastergardeners.wordpress.com/

Palmer Soil & Water Conservation
http://palmersoilandwater.org/

South-Central Alaska Beekeepers Assoc.
http://www.sababeekeepers.com/

Southeast Alaska Master Gardeners Association
http://seak-mastergardeners.org/index.html

Sustainable Agriculture – UAF
http://www.uaf.edu/ces/ah/sare/

UAF Cooperative Extension Service, Palmer
http://www.uaf.edu/ces/districts/matsu/

UAF Cooperative Extension Service Publications
http://www.uaf.edu/ces/pubs/catalog/

UAF CES Citizen Pest Monitoring Portal
http://www.uaf.edu/ces/ipm/cmp/

UAF Georgeson Botanical Garden
http://www.georgesonbotanicalgarden.org/

UAF Herbarium **New**
http://www.uaf.edu/museum/collections/herb/

UAF School of Natural Resources & Extension
http://www.uaf.edu/snre/

University of Saskatchewan Fruit Program
www.fruit.usask.ca

USDA/NRCS Plant Data Base
http://plants.usda.gov/java/

VOLUNTEER OPPORTUNITIES

- **Submit an article to the newsletter**
- **Volunteer to chair or help a committee**
- **Grant/scholarship coordinator**
- **2019 program/speaker coordinator**
- **Christmas Party coordinator**
- **Nomination Committee/Coordinator**
- **Volunteer to serve as president**

CLUB CONTACT INFO

President:	**Michael Kircher**	**745-1459**
Vice President	**Curt Mueller**	**745-6144**
Secretary:	**Dorte Mobley**	**232-5422**
Treasurer:	**Cathy Crew**	**632-4401**
Member at Large:	**Marge Mueller**	**745-6144**

If you have gardening news, photos or information you'd like to share in the newsletter, please contact Deb Blaylock at her email: kdblaylock@ak.net

Website: www.matsumastergardeners.com/
Email: matsumastergardeners@gmail.com

CALENDAR OF EVENTS

OCTOBER 2018

Oct 1, Palmer, MMG Mtg, **Change of Topic** Round table discussion of 2018 garden success and/or failure.

NOVEMBER 2018 AND BEYOND

Nov 5, Palmer, MMG Mtg, Annual Meeting/How to Manage a Successful Worm Bin, Ellen VandeVisse, Good Earth Garden School, http://ellenvandevisse.com/
Nov 5 – 7, Anchorage, Alaska Sustainable Agriculture Conference
Dec 3, Palmer, MMG Mtg, Christmas Party

Club Membership

The membership year runs from January to December each year. Annual individual memberships are $10 and family memberships are $12. Family memberships are only for family members living in the same household.
Join or renew online
Thank you

How and What to Submit for the Monthly Newsletter

Your submissions are greatly appreciated and make our newsletter what it is – so don't be shy about submitting items for publication.
However, there are a few rules which we all must pay attention to:

Articles, stories, poetry, upcoming events, and pictures (garden-related) are gladly accepted for inclusion in the newsletter. Please submit pictures in JPEG format and other items in Word format with no special formatting other than paragraphs. When submitting pictures, please provide a brief caption or explanation as to who or what is in the picture. I do not have a scanner to copy pictures, so I cannot accept hard copies.

If you are not the author or photographer, please ensure you have permission of the author or photographer to use their material in the newsletter. The newsletter publisher is not responsible for obtaining this for you.

Please do not provide magazine articles or pictures from the internet unless they are public domain items.

Deadline for submission of articles and info: 20th day of each month ~~ Thank you~~

October 2018

Website: www.matsumastergardeners.com/
Email: matsumastergardeners@gmail.com

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