



President's Patch

By President Deb Blaylock

With the world turned topsy turvy, we have one certain thing to fall back on – gardening. Mother Nature may throw some curve balls at us, but we still have the ability to go outside and sink our fingers into the earth, smell the flowers and the sweet smell of fresh after a rainstorm. Even though things are “opening” back-up, my gut tells me we will never return to what we once considered normal. But in the garden, does any of that matter? We plant seeds and transplants, pull weeds, water, fertilize, and eventually harvest – has any of that changed? Not in our little compound – it's still the normal cycle of preparation and planting. I hope you all can fall back on this little bit of normal as well.

I just read a letter online from the Alaska State Fair stating they have cancelled the 2020 Palmer State Fair. I'm not sure what to think of this but find it to be very disappointing. There is no word on the Palmer Midsummer Garden and Art Faire, but this too may be a casualty of 2020 – the year that wasn't. Fortunately, we can go ahead with planting events because of the lifting of gathering limits. The Grow Palmer folks recently gathered and built their new community garden area and will soon be gathering to plant the main Grow Palmer area.

When we gather for our summer planting projects, we need to maintain our social distancing and, if required, abide by any notices published at the two areas we will be planting at – the Palmer Public Library and the Palmer Veterans & Pioneers Home. Mabel Wimmer passes on that we cannot enter the Veterans and Pioneers Home, but they do have an outdoor restroom if needed. They are looking forward to our annual planting. Sue Glenn will be picking the plants up from Aurora Nursery. Many thanks to Sue and Mabel for volunteering to help.

The Palmer Public Library planting will be a week later than normal. It was moved back a week to give the plant sale team more time to work through

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GENERAL MEETINGS FIRST MONDAY OF THE MONTH NEXT MEETING

LOCATION: PALMER PUBLIC LIBRARY, 655 S VALLEY WAY, PALMER, AK
DO NOT HAVE TO BE A MEMBER TO ATTEND

SPEAKER/TOPIC

THIS IS ONE OF OUR ANNUAL COMMUNITY SERVICE PROJECTS. PLEASE BRING ANY EXTRA ANNUAL PLANTS YOU WOULD LIKE TO DONATE TO THE PLANTERS AT THE PALMER PUBLIC LIBRARY. DRESS FOR THE WEATHER AND BRING SOME GARDENING TOOLS TO HELP WITH BED CLEAN UP AND PLANTING. OBSERVE ANY SOCIAL DISTANCING REQUIREMENTS TO THE BEST OF YOUR ABILITY!

the labels and money. Hopefully by now, you all received word the plant sale was cancelled for a multitude of reasons. I hope you all have found other ways to sell your plants to the public.

Hope to see you all on Saturday, May 30th, 1 p.m. at the Palmer Veterans and Pioneers Home.

PEASANT'S PERSPECTIVE: BY CURT MUELLER, MASTER GARDENER

Photo submitted by the author

"Horror vacui" translated as "Nature abhors a vacuum" has been attributed to Aristotle. Although it has a broader meaning, for gardeners it means that nature tends to fill an empty space with flora or fauna. The peasant considers the crevice between two rocks as an empty space, and the fact that a pasque flower was able to colonize it is an example of the idiom. Surely there are considerable odds against this happening. The seed had to enter the space, perhaps by the wind. It then had to find sufficient soil and moisture to germinate and continue to grow and finally bloom. The first year it was a small plant recognizable as a pasque flower plant by the leaf shape. The second year it made a flower and this year it is more vigorous and has a flower and another bud. As a plant that does not do well with competition, this one has found a spot where it has no rivals. A survivor, indeed.



We have begun our spring season with warm and very dry weather. We can only hope we do not get a repeat of last summer. The birches appear to be healthy and in full leaf. As you recall the leaves became mostly brown last season with many dropping early and little fall color. May we get timely rains this summer and cooler temperatures more to our area's liking.

Time to get that gardening done, if we are ever done gardening, and enjoy the beauty and fruits of our endeavors and nature's kind help.

Thanks, folks.

PALMER VETERANS AND PIONEERS HOME

We are planting one of our summer projects on May 30th at 1 p.m., at the Palmer Veterans and Pioneers home. Mable Wimmer has volunteered to lead the charge on this project! Thank you, Mable - you ROCK! The Association is purchasing flowers for this project from Aurora Nursery. Thank you Julie Pollard!

We need members to show up with gardening tools in hand to prep the beds and plant the flowers. Please observe any rules posted at the Pioneer Home for social distancing and respect your fellow gardeners' personal space as well. Dress for the weather and let's get out there and beautify their flower beds!

REBARCHEK FARM PROJECT UPDATE

On April 27, I met up with LaMarr Anderson at the Rebarchek Project across from the Alaska State fairground. The Rebarchek committee continues to plan and implement the project and wants to add a small access road from the existing gravel road to the tunnel greenhouse, which will be installed in the near future for the FFA. The Master Gardener's plot abuts that area, so the request was made for us to rotate our plot 90 degrees. This actually gives us access to two water faucets along the new line and a more prominent view for visitors. This is definitely to our benefit. The existing arbor is slightly offset to the rotated plot, delineating the entrance. As we develop it, the result will be more aesthetically pleasing to visitors.

Our continuing needs for the project include a small sign for the top of the arbor with our logo and name, a larger sign next to the arbor with our purpose, a split rail fence to each corner from the arbor, and other items related to our purpose such as raised and ground-level flower and vegetable demonstration beds featuring various techniques, artwork, and whatever else we can come up with.

The old farmhouse rehabilitation is nearing completion, with work continuing on the inside expected to be done by fall. The FFA greenhouse will be installed soon. A gas line will be run to the property this year and will not only provide heat for the house, but also for the greenhouse. In addition, the small old greenhouse near the entrance could not

be repaired, was removed, and will be replaced.

Apparently, there will be a number of activities taking place there this summer. Access the State Fair website for more information. Anyone who wants to contribute to our work there can contact me at urbanag@gci.net.

Michael Kircher, committee chair



This is the entrance arbor which was constructed and placed last fall.

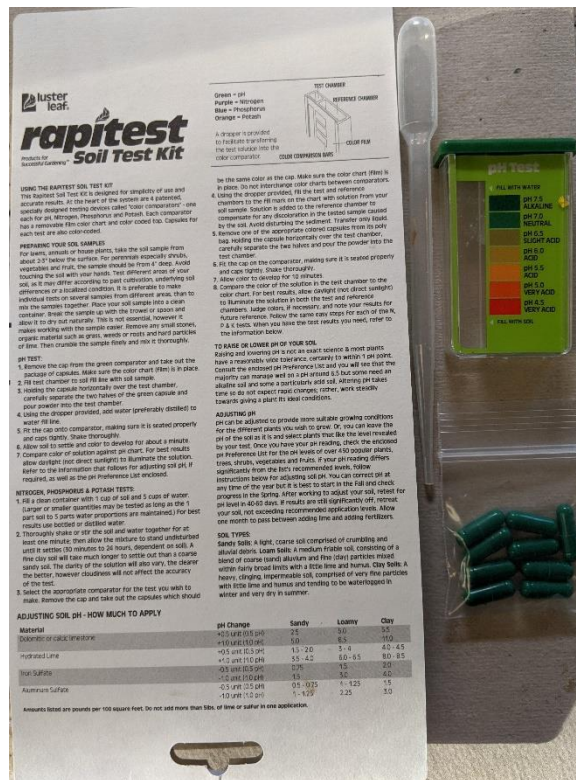
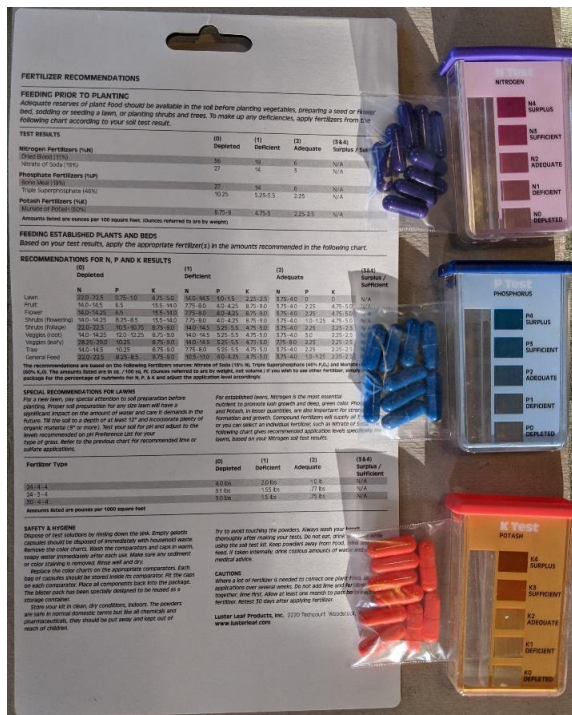


The signage explaining the project

Over the Counter Soil Garden Test Kits - Value or Confusion? (Part 1)

By Robert Van Veldhuizen; Photos submitted by the author

A few years back when I was transitioning from being a full-time permanent employee of the UAF Agricultural & Forestry Experiment Station to a semi-retired, part-time temporary one, my co-workers at the Fairbanks Experiment Farm gave me some retirement “gifts,” one of which was an over-the-counter garden soil test kit. It was given, they told me, as a way for me to transition from working in a real soils laboratory into the “Real World” (whatever that is). I laughed along with everyone, polished off a few more fermented adult beverages, tossed the kit in a drawer and forgot about it until this spring. This year the Matanuska Experiment Farm and Extension Center’s main phone has been ringing off the hook with multiple questions about soil test kits. Now is the perfect time to dig it out and put it to the “test.”



The test kit I am using is a typical kit sold over the counter for use by home gardeners. I found one similar to the one above for around \$20.00 at a local garden supply store. Most will come with a way to measure the active pH in the form of free hydrogen ions (H^+) and a table of how much lime to add to correct for an acidic pH test result. There will also be a way to measure for the concentration of available nitrogen in the form of nitrates (NO_3^-), available phosphorus in the form of orthophosphates (PO_4^{3-} , HPO_4^{2-} & $H_2PO_4^-$), and available potassium or potash in the form of the potassium ion (K^+). Like with the pH test there will be a table of how much N-P-K fertilizer to add based on the test results. (Continued on page 5)

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It does this through a color change in the soil – water solution brought out by a chemical reaction between the chemical reagents in the color-coded capsules and the presence of the ionic forms of the above-mentioned nutrients. The darker the color the higher the concentration. Furthermore, this test kit recommends using distilled water to make all the soil – water solutions. Some test kits I have seen say to use tap water, which comes with its own chemistry and can really change the results for the worse. Distilled water at least is mostly free of extra chemistry outside of the hydrogen and oxygen that make up water.

So far so good. One of the many and varied jobs that I've had over the years is teaching the laboratory portions of the soil classes taught at UAF. I would use an over-the-counter soil test kit as an example of how the correct method could give inaccurate results. The correct methods in this case are the chemical reagents in the color-coded capsules of the test kit (which is similar to what is prepared from laboratory grade chemical reagents in a testing laboratory) with the use of distilled water are identical to what is used in a soils laboratory test.

Even though the test kit does not mention the exact ionic form of the nutrients that I have listed above, the laboratory test with the correct chemical reagents will react to produce the same colors. The laboratory test for nitrates will produce a pink color, the test for orthophosphates will produce a blue color and the test for available potassium will produce an orange color. In addition, there are a number of pH indicators used in the laboratory that will change color based on the concentration of free

hydrogen ions in the soil – water solution. Anyone remember litmus paper?

It is from here on out where things get goofy for the test kits which leads to inaccurate results. In a laboratory test the color change between the chemical reagents and the specific nutrient ions is measured with a spectrophotometer. Time to get a little science geeky here. If you look at a rainbow, each of the colors are actually a different wavelength of energy. Within one color band, the intensity of that color will grade from light to dark so the energy wavelengths within that one color also change just a little bit. This is something that can be measured with accuracy and precision with a laboratory spectrophotometer but not very well with the human eye, which can only do coarse differences. The accuracy and precision with a laboratory spectrophotometer are further enhanced with the use of a set of chemical standards of known concentrations, usually a set of 10 different concentrations from low concentration to high (in parts per million, ppm). Your soil that is being tested will hopefully fall somewhere between the low and high concentration standards which results in a fairly accurate and precise laboratory test result. The over-the-counter test kits have no set of standards to compare the soil being tested with them and your eye is not as good as a spectrophotometer at measuring fine differences within a color wavelength band.

To assist in making the comparison of a soil test kit and a series of laboratory tests I just happen to have a resource pile of soil left over from my construction of raised garden beds at home (what soils geek doesn't have a pile of dirt to play with?). (Continued on page 6)

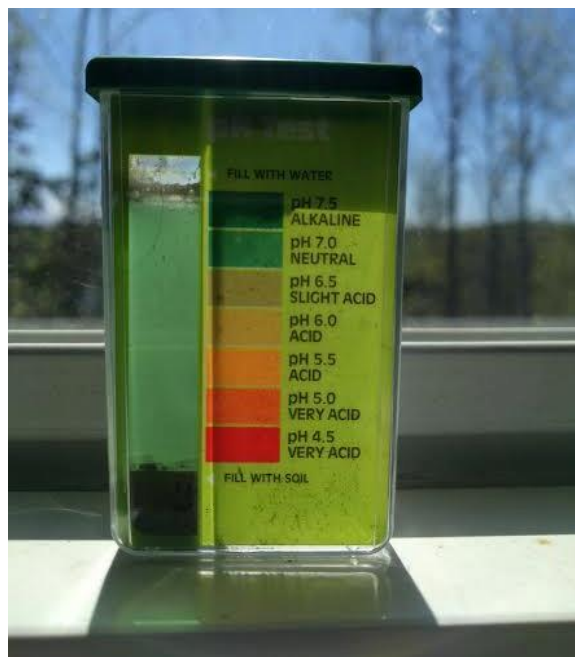
(Continued from page 5)

I had bought a dump truck load of a lawn and garden soil mix from one of the local soil and gravel companies to fill all these garden beds. Being the soils geek that I am, I collected a composite sample from the pile and sent it off to Brookside Labs for a complete soils analysis. I wanted to have the data to be able to make an accurate recommendation of lime and nutrient requirements to have a great garden for the first year of planting. A complete soils laboratory analysis will include the following tests: Total Cation Exchange Capacity, 1:1 water: soil active pH, SMP Buffer pH (for lime requirement), Percent Organic Matter, Estimated Nitrogen Release, Soluble Sulfur, Phosphorus (ppm), Calcium (ppm & %), Magnesium (ppm & %), Potassium (ppm & %), Sodium (ppm & %), Boron (ppm), Iron (ppm), Manganese (ppm), Zinc (ppm), Aluminum (ppm) Nitrate Nitrogen (ppm) and Ammonium Nitrogen (ppm). All these are at a price only slightly above the cost of the over-the-counter test kit, which only tests for active pH, available nitrates, phosphorus, and potassium.

Let's start with active pH. Soil is added to the soil fill line and distilled water to the water fill line, the contents of the green plastic cap are added to the suspension and everything is shaken up to mix thoroughly. The suspension is then allowed to settle out for 10 – 20 minutes and the color of the soil – water is compared to the attached color chart. The soil – water ratio of the test kit is close to the recommended lab test of 1:1 on a weight basis, although in this case, the test kit uses a volume measure. Mineral soil is denser (heavier) than water, which is why it will settle to the bottom of the container. Organic portions of soil are less dense (lighter) than water

and will float on the surface. To get a proper soil – water ratio in a lab, each are weighed before combining for testing. The powder in the plastic cap is most likely a universal pH indicator between pH 4 – 7. The time frame for color change is also close to the recommended lab standard.

The results for this method show an active soil pH of close to neutral (pH = 7.0). A management of no additional lime would then be recommended.



A comparison using a pH dip stick with a universal pH indicator (pH 0 – 13) on the exact same soil – water suspension done at the exact same time indicates an active pH of 4.0. This is a significant difference as this result would indicate a management of a fairly high amount of lime would need to be added to change the active pH to 6.5. Using a typical table that comes with pH test kits, the lime recommendation to change the active pH from 4.0 to 6.5 in a loamy soil is 8.5 lbs for each 1.0 pH unit.

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The difference between 6.5 and 4.0 is 2.5 pH units, for a total lime recommendation of 21.25 lbs. of agricultural grade lime per 100 ft².



The laboratory pH measurement uses a pH meter calibrated to a pH range of pH 4 – 7, which for this soil gave a reading for active pH of 4.5, very acidic soil. The pH dip stick was much closer than the soil test kit. The actual amount of agricultural grade lime to add to change the active pH would need to be done from a separate test using the SMP Buffer pH method. The laboratory SMP buffer pH, which measures the change in pH of the SMP Buffer when soil is added, had a measure of 6.8. A management for lime requirements to get an active pH of 6.5 would be read off a SMP Buffer pH Table calibrated for Alaska soils. From the table, this lime requirement would be 2.3 lbs. of agricultural grade lime per 100 ft².

Considering the cost of lime and the importance of proper soil pH (near neutral) for soil nutrient availability and microbial activity, which test would you rely on for your garden soil? (Shameless Plug – the SMP table for Alaska soils

and an explanation of pH and all plant nutrients are in my book – Alaska's Agricultural Soils, Sampling and Interpretation of Test Results. (\$20.00)

Stay tuned for Part 2 in the July 2020 newsletter.

You may contact the author at:

rmvanveldhuizen@alaska.edu, (work)

bob.vgsuared@gmail.com (home), or 909-699-8209 (cell - but I don't always carry the phone around with me).

Sign Up for Weeding Palmer Library & Veterans and Pioneers Home

If you would like to sign up for an unclaimed week, email

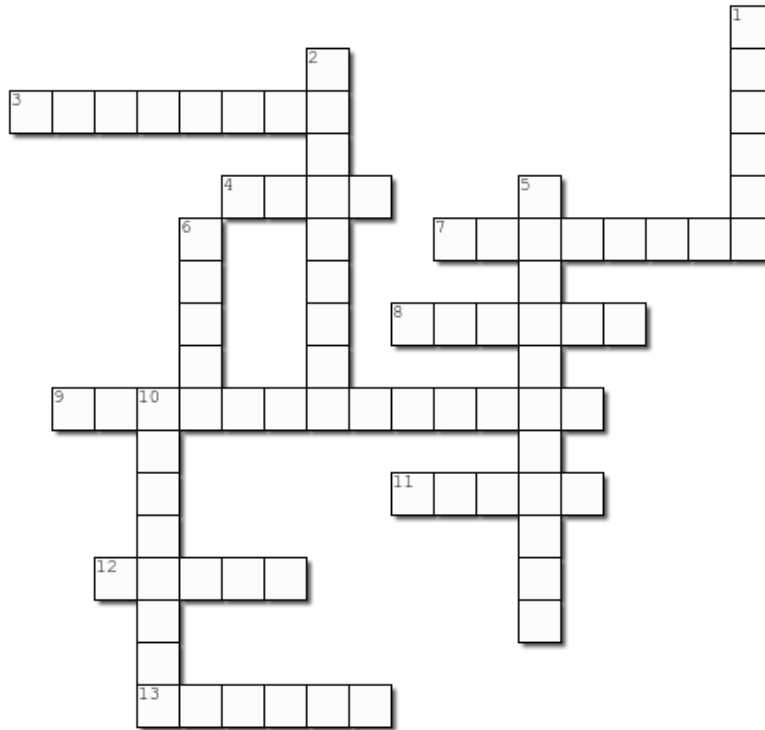
matsumastergardeners@gmail.com with the date and your name.

Week of:	Name
June 8	
June 15	
June 22	
June 29	
July 6	
July 13	
July 20	
July 27	Ken & Deb Blaylock
August 3	
August 10	
August 17	
August 24	
August 31	

JUNE CROSSWORD PUZZLE

Annual & Perennial Flowers

Questions and answers to this puzzle were taken from the April 2011 edition of the Alaska Sustainable Gardening, The Alaska Master Gardener Manual, HGA-00339.



Created using the Crossword Maker on TheTeachersCorner.net

Across

3. Some perennials can 'jump the fence' and become _____, spreading into undisturbed areas.
4. Annuals and biennials are generally started from _____ or purchased as small plants.
7. These plants usually require 2 full years to complete their growth cycle.
8. _____ perennials won't survive outdoor winter conditions even with protection.
9. _____ are small areas that have a slightly different climate than the surrounding area.
11. Trees and shrubs are _____ perennials.
12. Ample _____ is needed to grow stocky, healthy transplants.
13. Perennials grow more _____ than annuals.

Down

1. These plants live one year.
2. These plants live year after year.
5. The process of removing flowers before they go to seed.
6. Most annuals need regular _____ because they don't develop deep root systems.
10. Many plants can be propagated from either tip or root _____.

Answers to May 2020 Puzzle

Across

5. Another aspect of temperature is _____ degree days. (**growing**)
6. _____ will make your garden more productive. (**planning**)
9. Air and soil _____ are critical to maintaining healthy plant growth. (**temperatures**)
13. Be sure plants have been properly _____ off so they will easily adapt to environmental change. (**hardened**)

Down

1. Check soil _____ and pH by having your soil tested before starting a garden. (**fertility**)
2. The ideal vegetable garden _____ is deep, easily worked and well drained, and contains at least 5 percent organic matter. (**soil**)
3. In Alaska's _____ soils many seeds may rot before they have a chance to sprout. (**cold**)
4. 12 hours or more of this, is ideal for a good vegetable garden site. (**sun**)
7. Many of the desired garden vegetables will not perform well in the open garden and should be grown in a _____. (**greenhouse**)
8. A _____ is essential for preparing a seedbed, removing weeds and breaking up crusted soil. (**hoe**)
10. Soil temperature affects the _____ of seed germination. (**speed**)
11. Soil temperature is as important as _____ temperature for plant growth. (**air**)
12. Transplant on a _____ day, in the less intense sun of early evening to prevent wilting. (**shady**)

Garden Links (updated Nov 2019)

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

<http://www.buyalaskagrown.com/>

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

<https://www.akroseroot.com/>

Alaska Rock Garden Society

<http://www.akrockgardenociety.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 Gardener

<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 (Extension)

<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

<https://www.uaf.edu/ces/>

UAF Cooperative Extension Service Publications

<http://www.uaf.edu/ces/pubs/catalog/>

UAF CES Citizen Pest Monitoring Portal

<https://pestreporter.alaska.edu/>

UAF Georgeson Botanical Garden

<http://www.georgesonbotanicalgarden.org/>

UAF Herbarium

<http://www.uaf.edu/museum/collections/herb/>

UAF Alaska Master Gardener Program

<https://www.uaf.edu/ces/garden/mastergardeners/>

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

<https://plants.sc.egov.usda.gov/>



VOLUNTEER OPPORTUNITIES

- Volunteer to serve on the Board of Directors for 2021.
- Volunteer to chair one of our committees or serve on a committee. There are several vacancies for chairs and most all will need members to help.
- Volunteer as the State Master Gardener Conference Committee chair.

CLUB CONTACT INFO

President:	Deb Blaylock	746-6045/kdblalock@ak.net
Vice President	Gregory Kalal	339-1966
Secretary:	Carolyn Johnson	619-857-6614
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 send to the MMGA email.

Website: www.matsumastergardeners.com/

Email: matsumastergardeners@gmail.com

CALENDAR OF EVENTS

MAY 2020

May 30, Palmer Veterans and Pioneers Home planting, 1 p.m.

JUNE 2020 AND BEYOND

Jun 8, Palmer, Palmer Public Library Planting (Note date change!)

Jul 11, Palmer Midsummer Garden and Art Faire (On Hold)

Jul 22, Summer Members-Only Garden Tour, High Tunnels, Gardens & a Root Cellar and Alpine Plants (On Hold)

Aug 27 – Sep 7, Palmer, Alaska State Fair, Cancelled for 2020

Sep 14, Palmer, MMGA meeting

Oct 5, Palmer, MMGA meeting

Nov 2, Palmer, Annual MMGA meeting

Dec 7, Palmer, Christmas Party

Club Membership

The membership year runs from January to December each year. Annual individual memberships are \$15 and family memberships are \$20. Family memberships are only for family members living in the same household. The deadline to join is January 15, 2020 to be listed in the annual membership directory.

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--



June 2020



Like us on
Facebook

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Email: matsumastergardeners@gmail.com

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