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President's Article
Regula Pepi

Pyrethrum - A Very Incomplete History
or how the Dalmatian Daisy helped build the Panama Canal

Gardeners are all familiar with one of the oldest insecticides still in frequent use, the extract of the dried flower heads of *Chrysanthemum cinerariifolium* or a powder produced from the dried flowers. The plant has had other names such as the common one, "dalmatian daisy," and the scientific names *Tanacetum cinerariifolium* or *Pyrethrum cinerariifolium*.

What has that daisy got to do with such a heroic construction project as the Panama Canal? In the right hands, it could keep the construction workers alive! The right hands in this case were those of military sanitation officer William Gorgas. He was transferred to the Panama Canal Zone from Cuba, where he had cleared the island of yellow fever and malaria during the Spanish-American War. With the then-new knowledge that mosquitos were the carriers of those diseases, he started a systematic program of killing mosquitos with pyrethrum, sulfur, and the elimination of standing water.

The United States had acquired control of a 10-mile-wide strip across Panama through gunboat diplomacy in 1903, while also buying the remnants of a failed French attempt to construct a canal.

Work on the Panama Canal started in 1904 with sanitation officer Gorgas present until the canal's completion in 1914. With about 4,100 sanitation workers, he made war on the mosquito. The workers' housing was improved with screens on windows, a city drinking water plant, and apparently with sulfur fumigation. There were quinine dispensaries along the construction zone for treatment of malaria. The pyrethrum was mixed with kerosine oil to make it stickier and it was applied liberally to mosquito habitat. Workers ceaselessly drained any standing water as much as was possible. Within 2 years, yellow fever had completely disappeared and malaria

cases had fallen by 90%. Less than 10% of the workforce died through disease or accident during construction, compared to a 25% death rate during the French attempt, which was only 40% completed.

Pyrethrum is still the first insecticide I think of when needed in the garden, as it is comparatively less toxic to humans than alternatives and breaks down quickly from sun, air, and water. If you use it, read the label and use precisely according to instructions. It still is a poison, after all.

Catching the Rain

by Lynn Kunstman

In September of 2021, the irrigation wells on the OSU Southern Oregon Research and Extension Center campus at 569 Hanley Road in Central Point ran dry. Watering of all campus Demonstration Gardens stopped and plants in the Native Plant Nursery began to die. Through a massive emergency effort, the nursery stock was either donated to local restoration projects or taken to member homes to be maintained until we could install a watering system.

An emergency water storage system of eight caged tanks was installed near greenhouse #1 in February 2022 to provide purchased water to irrigate native plant seedlings and transplants being produced in our nursery. This was intended as a temporary fix for the ongoing watering problems.

As a more permanent solution, JCMGA, in conjunction with Small Farms, Land Stewards and other programs housed at SOREC, began fundraising to install a large Rainwater Catchment System. The 5,000-gallon system will capture water off the roof of greenhouse #2 and is due to be installed sometime in July or August, 2022. The captured water will supply emergency irrigation to the nursery on campus in the event of future well failures.

This system will also act as a demonstration teaching tool for Master Gardeners, Small Farms, Land Stewards, 4-H programs, and any community association that would like to bring members onto campus to see what a large capacity capture system looks like. Interpretive signs and brochures will be placed with the system for the public's information.

The Rainwater Catchment System is a $15,000 project, so we needed to raise considerable funds. With the help of a small cadre of volunteers, we reached out with personal emails and text messages to all Jackson County Master Gardeners for donations, as well as to other stakeholders and community members. As of March 25th, we have received $9,782.00 in donations.

We are pleased to have made so much progress toward our financial goals. We are now pursuing grants to make up the balance of the expenses to pay for project completion. Though the GoFundMe campaign ended on March 15th, we are still actively fundraising directly through our website donation page https://jacksoncountymga.org/donate/

Our association would like to thank everyone who donated to this effort, for supporting Master Gardeners in Jackson County in our ongoing efforts to educate and serve the citizens of Jackson County!

Garden for Life!

Bottle Drive

Looking for a quick and easy way to help Jackson County Master Gardeners? Consider donating your redeemable beverage bottles and cans.
It's easy! Pick up a BLUE BAG or two (no more than two please) from the table in the lobby of the Extension office and fill it with clean, empty, beer, soda, water, tea, or juice container–ANY bottle or can that has the OR 10 cents redemption value listed on the label. Once your bag is full, you can drop it off at any of the following bottle redemption sites:

- 1179 Stowe Ave, Medford, OR 97501
- 2727 Ave G, White City, OR 97503
- 1040 Rogue River Hwy, Grants Pass, OR 97527

Then pick up another blue bag and start again. Every little bit helps!

Somewhere Growing Over the Rainbow

Gardening Gourmet
Sydney Jordan Brown MG 2000

Somewhere over the rainbow
Skies are blue
And the dreams that you dare to dream
Really do come true

This is especially true if you sow, *Beta vulgaris subsp, cicla,* Swiss chard, in all its vibrant range of colors.

From bright yellow, blood red, white, crimson, peppermint stripe and fuchsia to lime green and coral stems, Swiss chard can bring a rainbow right from your own garden bed.

Also known as Silverbeet, leaf beet, and spinach beet, to name a few, Swiss chard is surprisingly way more familiar to the other side of the Atlantic than to our own American soils.

A member of the same family as spinach, *Amaranthaceae*, Swiss chard originated in Sicily then later was cultivated in England. It was listed among beets in 1848 when colonists brought it to America. (Swiss was added to its name to distinguish it from French spinach, 19th century).

Cultivated both as vegetable and ornamental, this hardy biennial plant provides not only succulent-ruffled-leaves but thick-sweet stems. It's a wonderful substitute for spinach since, unlike spinach, it contains no oxalic acid.

While Swiss chard is low in calories, it's high in magnesium, iron, potassium, and vitamins A, C, and K. One cup of cooked greens has 700 times the RDA of vitamin K and 200 times that of A, all without the oxalic acid found in spinach.

You can indulge in this delicious nutritious green both raw and cooked. Have it as a salad, tossed in stir fries, used instead of spinach in lasagna or a frittata, made into pesto, have wraps with the steamed leaves, and more.

Swiss chard can be directly sown early in spring as soon as soil can be worked, or sown in late summer for fall crops. You can also start it inside, about a month before the last frost date.

Sow seeds outside in rows 14”-18” apart (inside in sterile seed mix in 5” squares covered with ½” seed mix), then thinly cover and gently pat down with a 1/2” of compost mix. Water thoroughly.

Once sprouted, thin direct sown seedlings to 8-12” apart, or similarly, plant out (after acclimating for several days) seedlings started indoors.

Keeping Swiss chard mulched, free of weeds, side dressed with rich compost, and watered thoroughly (once weekly unless very hot, then twice weekly), will give you a great rainbow to enjoy all season.

Unlike spinach, it will grow in both cool and summer heat, and survive mild frosts as well. Although as a biennial Swiss chard wants to set seed its second year, one can clip young leaves and stems in early spring until starting a new crop.

Why not sow your dreams with rainbow rows of Swiss chard? Not only will it bring a vibrant splash of color to your garden, but your menu as well.

Some Fun Facts:

Despite the “Swiss” reference, chard isn’t Swiss at all but a native of the Mediterranean.

It’s believed the name “chard” derived from the French word “cardoon” which is carde furthering the confusion with the thistle cardoon that’s not a leafy green at all.

Swiss chard’s age is unclear, but Aristotle mentioned using red-stalked chard around 350 BCE as a medicinal plant.

Seed Sources:

Baker Creek Heirloom Seed Co.

https://www.rareseeds.com

Pinetree Garden Seeds
https://www.rareseeds.com

Harris Seeds
https://www.harrisseeds.com

Recipe:

Spicy Sautéed Toasted Coconut Chard

1 lb chard, washed, with stems cut in small crosswise slices, leaves chopped
1 red organic onion, washed, peeled and cut in half vertically then cut in thin slices
4 large cloves of garlic, skinned and minced fine
1 2" piece of fresh ginger root, peeled and minced
zest and juice of one organic lime
3 tablespoons sesame cooking oil (canola is good substitute)
½ cup unsweetened organic coconut flakes, toasted (toast in 350° oven about 8-10 minutes until light brown)
1/3 cup unsalted dry roasted almonds, (Trader Joes) chopped coarse
2/3 cup unsweetened coconut milk
1 tablespoon honey or agave nectar
¼ teaspoon sea salt
½ teaspoon spicy sweet chili paste (Amy Chungs)
1 teaspoon toasted sesame oil

Heat cooking oil in heavy pot then toss in garlic, onion and chard stems. Sauté for about 3 minutes until limp. Add chard leaves and sauté until limp. Add in ginger, lime zest and juice, coconut milk, honey, chili paste and salt. Cook over medium heat about 10 minutes until all is tender and juices have been reduced. Toss in toasted coconut and almonds and toasted sesame oil. Stir until well blended and serve hot. Makes about 4 servings as a side dish or atop rice as a base for grilled poultry or fish.