MISSION POSSIBLE—for the Marin Monarch Working Group

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My talk is about your "Mission Possible" -- to save Marin County's Monarchs from extinction.

I am Craig Carlton Dremann, owner of a seed company for 54 years, and doing Ecological Restoration with my firm, The Reveg Edge, from Redwood City for the last 33 years.

I have mostly European heritage as my ancestors, but will also speaking from my Native heritage. from my great grandmother Hannah of the Tuscarora Nation of North Carolina.

I will also be speaking as a "Land Doctor" after restoring 800 acres of California grasslands back to 95% native cover since 1992.

In order to get my restoration projects done, I needed to invent four grassland methods, to unearth the dormant native seeds.

And at the same time, get rid of all of the weeds around them, as well as feed the natives to get them back to health. https://www.ecoseeds.com/four-step.pdf

The native grasslands are the Native People's Gardens of Eden, and dormant wildflower seeds are still in the soil underneath each square foot of weed grasses in California.

If we accept our "Mission" and spend the time and money to get the dormant native seeds in the soil to sprout, and the milkweeds planted where needed, we can have 90-95% native cover when our mission is accomplished.

===Land Patrons, Economic Patrons, Preserves and Monarch Mission Activists===

You start with the Land patrons, to give you 20-five acre grassland parcels in Marin County to work on, to be set aside as "Monarch-Milkweed Ecological Restoration Preserves".

These five-acre parcels could be from Marin County Parks, or the Buck Institute, the Skywalker Ranch, from the Olompali State Historic Park, or five acres of the John Thomas Howell Wildflower Preserve for example.

Maybe five acres from the Point Reyes National Seashore of the poppy meadow in the old horse pasture next to the visitor's center, a very easy place to start.

Also from the Economic-Patrons, you need the donations of \$70,000 per acre to accomplish your Possible Monarch mission.

You will also need Monarch Mission Activists, who will be paid a living Bay Area wage, who can go out and do everything that will be needed to restore those 100 acre's worth of preserves for the next five years.

=====Fertilizing, mowing, soil tests and taking off mowed straw=====

The first year would involve, adding tons of organic fertilizers and mulch, and the monthly mowing at 8-12 inches high from February to June, and soil tests.

Then, raking off the mowed weed grasses in July, and restesting the soil periodically. And for aphid infestations, doing milkweed tissue tests too.

And then adding more fertilizers and mulch in summer, until you hit the "Sweet spot" for the local milkweeds plus the wildflowers and nectar plants, and native grasses.

Forget writing any huge and expensive annual reports. Keep annual reports to only one page long-- percentage cover of natives and weeds, how many milkweed plants, and how many caterpillars—that simple.

And your work has to proceed at a very obvious pace towards that 90-95% native cover goal.

You need to see a 20% increase in native cover each spring—until you are back to a self-sustainable goal of 90-95% native cover. Some weed like yellow star thistles and stinkworts can be gone in 60-90 days after you add adequate fall fertilizing.

This is a marathon race to save the Western Monarch, and we need everything working together and getting done all at the same pace at the same time to accomplish these goals before extinction.

=======Here are your Lucky-21 Tips======

- **1.) Get the 20 Five-acre preserves** established by the Land Patrons.
- **2.) Get \$70,000 per-acre funds**, put in the bank by the Economic Patrons.
- **3.) Paid Mission Activists** with gas or battery powered string trimmers. My choice is the gas-powered Echo PAS-225 built before 2023.
- **4.) Monthly mowing at 8-12 inches high** from February to June. NO weeds are allowed to ripen any more mature seeds. Get the weed seeds all sprouting and out of the soil.
- **5.) Use Premium gas** for your gas-powered string trimmers and if you can get it, 100 octane, and change your air filters every 10 hours.
- **6.) When harvesting milkweed seeds**, always keep them in paper bags, never plastic. Long-term storage, refrigerated in glass jars with indicator silica gel and battery powered hygrometers and keep below 30% humidity.
- 7.) Before sowing milkweed seeds, soak in water until they sink.
- **8.) Planting out milkweed** or other native seedlings, knock off the potting soil as much as possible so roots are in direct contact with native soil.
- **9.)** When you dig a hole to plant, mix up blood meal with bone meal, and put a teaspoon at the bottom of each hole before you add the plant, to feed.
- **10.)** When monthly mowing at 8-12 inches high, make sure and cut the wild oats and weed grass seed heads when green, to stop them from making any new seeds.
- **11.) Fertilizing and mulching** is needed even in serpentine, and expect that dormant weeds will sprout after adding fertilizers, because that is exactly what you want them to do.

- **12.) 200 years worth of dormant weed seeds** are in the soil, because filaree and foxtail seeds can remain viable that long. The fertilizers and mulch will get those dormant weed seeds to sprout at the same time, you can get them moved out of the soil as quickly as possible.
- **13,) Dormant 200-300 year old native seeds** can sprout and take over, once the dormant weed seeds have all sprouted and are out of the soil, ,
- **14.) Each September to December** -- you can start your "Monarch Mission Possible" small-scale test plots and if you can have a wild milkweed patch there all the better.
- **15.) Set up some 10 x 10 meter test plots,** you will come back in spring and mow monthly at 8-12 inches high from February to June.
- **16.) For each 10** x **10 meter plot**, buy 40 pounds of blood meal, 25 pounds of Down to Earth brand bone meal, and 10-one cubic foot bags of Supersoil potting mix.
- **17.) Mow and rake off the weed grass straw** if possible before fertilizing. Put down the bone meal first, then the blood meal, and the potting soil on top.
- **18.) Set up two other plots.** Your "control" where you do not fertilize or mow, plus another plot you mow monthly and do not fertilize--along with your original mow and fertilize plot.
- 19.) Each spring do vegetation-cover transects across each plot.
- **20.) Do some Waypoint A-01 tests** from the top two inches of soil, next to existing wild milkweed plants, as well as next to wildflowers like poppies, to get their Soil Nutrient Thresholds established.
- **21.) Test where you fertilized** and where you did not fertilize, to see if you met the minimums needed for nitrogen and phosphorus, or if you need to add more or less in future plots.

Also do the other tests at https://www.ecoseeds.com/saving-monarchs.pdf
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