# Western Monarch survival -- From Seed to Sanctuary:
## *Optimizing Milkweed and Nectar Plant Growth with Soil Science.*

By Craig Carlton Dremann with I Ask AI - December 25, 2025.
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This website: www.ecoseeds.com/monarch-soil-testing.pdf

The premise that Western Monarchs need hundreds of millions more milkweed and nectar plants to survive is widely accepted, as habitat loss is a primary driver of their decline.[1]

The success of these planting efforts is indeed contingent on the plants thriving, and soil nutrient levels play a critical role in plant growth and survival.[2]

If soil tests are not conducted and necessary fertilizers are not applied, leading to poor plant survival, this could significantly **stall the pace of milkweed and nectar plant restoration efforts and exacerbate the risk of extinction for the Western Monarch butterfly.**

***The logical progression is as follows:***

1. **Habitat Restoration Goal:** The overarching goal is to increase the availability of milkweed (for larval development) and nectar plants (for adult sustenance) to support the Western Monarch population.[3] This requires successful establishment and growth of these plants.

2. **Importance of Soil Nutrients:** Just like any agricultural crop, milkweed and nectar plants require specific soil nutrient levels for optimal growth, flowering, and seed production.[4] Deficiencies in essential nutrients such as nitrogen, phosphorus, and potassium, as well as micronutrients, can lead to stunted growth, reduced vigor, and increased susceptibility to pests and diseases.[5]

3. **Role of Soil Testing:** Soil testing provides a scientific basis for understanding the existing nutrient profile of a planting site.[6] It identifies deficiencies or excesses that could hinder plant establishment and long-term health. Without this information, planting efforts are essentially a gamble, relying on the inherent fertility of the soil, which may be inadequate, especially in degraded or previously disturbed areas.[7]

4. **Impact of Fertilizer Application:** When soil tests reveal nutrient deficiencies, targeted application of fertilizers can correct these imbalances, promoting robust plant growth.[8] This is particularly crucial for large-scale restoration projects where the goal is to establish healthy, self-sustaining plant populations quickly and efficiently.

5. **Consequences of Neglecting Soil Health:** If soil tests are not performed and fertilizers are not applied when needed, the planted milkweed and nectar plants are likely to struggle or fail to thrive.[9]

***This would result in:***

**Reduced Plant Survival Rates:** A significant percentage of planted individuals might die or remain unhealthy, failing to provide adequate resources for monarchs.[10]

**Inefficient Resource Allocation:** The time, labor, and financial resources invested in planting would yield suboptimal results, leading to frustration and potentially discouraging future efforts.[11]

**Slower Pace of Restoration:** The need to replant or address failing stands would slow down the overall progress of habitat restoration, delaying the expansion of critical monarch habitat.[12]

**Increased Extinction Risk:** A stalled or ineffective restoration effort directly translates to a continued decline in available resources for Western Monarchs, pushing them closer to extinction. The butterfly's population has already experienced drastic declines, making every successful habitat enhancement critical.[13] [14]

Therefore, the failure to conduct soil tests and apply necessary fertilizers, leading to poor plant survival, would indeed **stall the pace of planting milkweeds and nectar plants and significantly increase the risk of the Western Monarch butterfly's eventual extinction.** This is because the effectiveness of planting efforts is directly tied to the health and survival of the planted vegetation, which in turn depends on adequate soil conditions.[15]

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**SOURCES--**


1. Western Monarch Butterfly Conservation. Xerces Society for Invertebrate Conservation↩
2. Soil Nutrients and Plant Health. University of California Agriculture and Natural Resources↩
3. Monarch Butterfly Conservation. U.S. Fish & Wildlife Service↩
4. The Role of Nutrients in Plant Growth. Purdue University Extension↩
5. Plant Nutrient Deficiencies and Toxicities. Oregon State University Extension Service↩
6. Why and How to Take a Soil Sample. Penn State Extension↩
7. Soil Testing for Home Gardeners. University of Maryland Extension↩
8. Fertilizers and Their Role in Plant Nutrition. Clemson University Cooperative Extension↩
9. Factors Affecting Plant Growth. Iowa State University Extension and Outreach↩
10. Challenges in Habitat Restoration. Society for Ecological Restoration↩
11. Effective Habitat Restoration Planning. National Oceanic and Atmospheric Administration (NOAA)↩
12. The Urgency of Monarch Conservation. Monarch Joint Venture↩
13. Western Monarch Population Plummets. Audubon↩

14. Western Monarch Count. Xerces Society for Invertebrate Conservation↩
15. Habitat Restoration Principles. Environmental Protection Agency (EPA)↩

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***Other Monarch, Milkweed, and Soil testing articles by Craig—***

www.ecoseeds.com/confederation-monarchs.pdf

www.ecoseeds.com/four-steps.pdf

www.ecoseeds.com/milkweed-battles.pdf

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www.ecoseeds.com/southwest-soil-thresholds.pdf

www.ecoseeds.com/saving-monarchs.pdf

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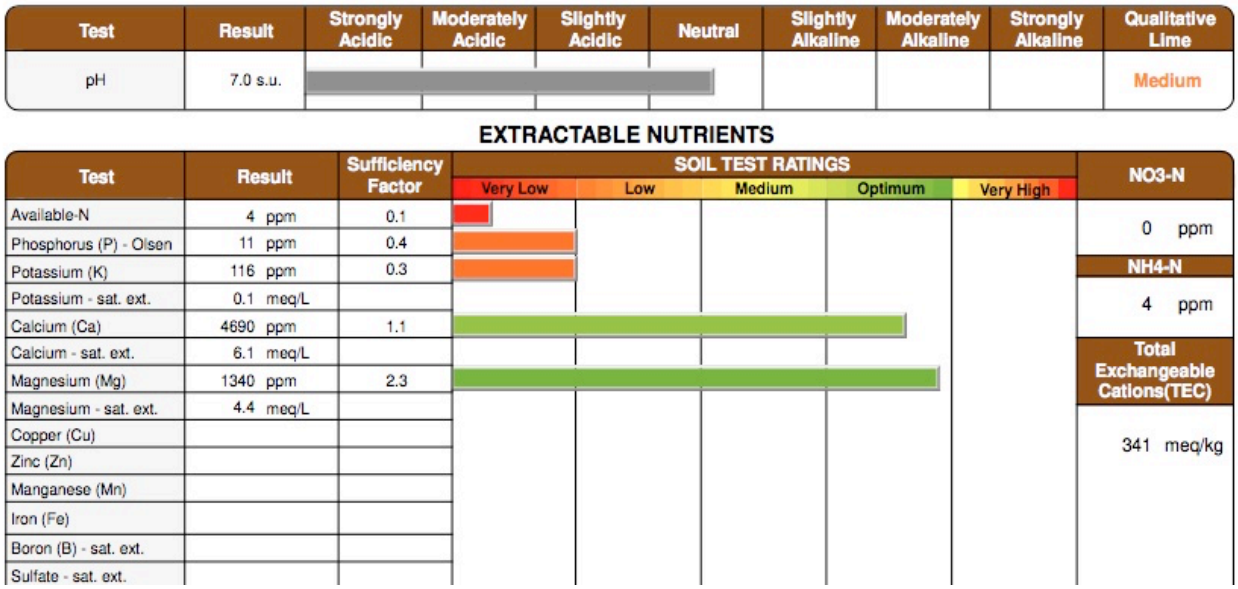

| Test | Result | Strongly Acidic | Moderately Acidic | Slightly Acidic | Neutral | Slightly Alkaline | Moderately Alkaline | Strongly Alkaline | Qualitative Lime |
|---|---|---|---|---|---|---|---|---|---|
| pH | 7.0 s.u. | | | | | | | | Medium |

**EXTRACTABLE NUTRIENTS**

| Test | Result | Sufficiency Factor | SOIL TEST RATINGS: Very Low / Low / Medium / Optimum / Very High |
|---|---|---|---|
| Available-N | 4 ppm | 0.1 | |
| Phosphorus (P) - Olsen | 11 ppm | 0.4 | |
| Potassium (K) | 116 ppm | 0.3 | |
| Potassium - sat. ext. | 0.1 meq/L | | |
| Calcium (Ca) | 4690 ppm | 1.1 | |
| Calcium - sat. ext. | 6.1 meq/L | | |
| Magnesium (Mg) | 1340 ppm | 2.3 | |
| Magnesium - sat. ext. | 4.4 meq/L | | |
| Copper (Cu) | | | |
| Zinc (Zn) | | | |
| Manganese (Mn) | | | |
| Iron (Fe) | | | |
| Boron (B) - sat. ext. | | | |
| Sulfate - sat. ext. | | | |

| NO3-N | NH4-N | Total Exchangeable Cations(TEC) |
|---|---|---|
| 0 ppm | 4 ppm | 341 meq/kg |

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**Soil unable to support milkweeds or Monarch nectar plants** Updated December 25, 2025