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Monarch draft

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An Attempt to Answer the Cause of Monarch Butterfly Population Decline

North American monarch butterflies – unique for their black, orange, and white color – are known for their mass migration south to California and Mexico. Over the past quarter of a century, the monarch butterfly population has decreased. Monarchs cannot survive without milkweed; milkweed serves as the only food source and host plant on which monarch butterflies eat and breed. However, milkweed decline due to the use of glyphosate herbicides could be correlated with the monarch decline. As conservationists, we must develop a solution to increase the survival of monarch butterflies for our generation and future generations. Using information gathered from various studies on the current issue, we must provide students at St. Olaf with the necessary information about milkweed and monarch butterflies to alleviate the decline.

Researchers have utilized mathematical models to determine the effects of fertility rates and direct counts of milkweed in the monarch population. These models have shown that factors involving climate or resource-related effects are not likely to be the cause of the monarch population decline. Instead, they suggest that glyphosate-tolerant crops have increased widespread losses of milkweed, resulting in the monarch population decline.1 Other researchers have tackled this issue as well. They argue that the monarch population has been declining since 1950, 50 years before the invention of genetically modified organisms (GMOs).2 Since these studies relied on citizen science data, one should consider the inherent bias of the volunteers. While the researchers could not agree on the cause of the monarch population decline, they do suggest taking the initiative to plant milkweed in various locations.

Other researchers have argued that the decline in monarch population is due to a temporal change in migration, not GMOs.3 They claim that monarch success during fall migration and reestablishment is likely the cause of the decline in monarch population. During fall migration, increasing nectar sources for monarch butterflies could potentially counteract the lack of milkweed during fall. However, more research needs to be done to determine the effectiveness of this option. In the meantime, increasing milkweed abundance across the United States appears to be a logical approach.

While none of the researchers could conclude why the monarch population is decreasing, it is important to consider the advice they give going forward. Student conservation groups at St. Olaf and around the United States need to work together. Through collaboration, we could grow milkweed along roadways, between fields, and in environmentally sensitive areas like Conservation Reserve Program (CRP). Planting milkweed is a good way to help other pollinators, too. Additionally, we should reach out to the government for support, which could involve providing classes to help educate people about the current situation of the monarch population. Through these various options, we can create more awareness about the beloved monarch. If an action does not take place, our generation and future generations to come will not be able to enjoy the beauty of monarch butterflies.

References

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