

# Monarch Monitoring At Stoney Ridge Farm

Joe Shekleton, Matthew Molenaar, Danny Garding, Emily Molenaar, New London Spicer Public School, Minnesota

Stoney Ridge Farm is located in West Central Minnesota at the border between the prairie and hardwood transition biomes. The location monitored is a one-half acre parcel of a four hundred acre wildlife restoration area. Stoney Ridge Farm has recently been designated as a "land trust" for preservation as a natural area. In addition, Stoney Ridge is the home of the MN Waterfowl Association "Prairie Pothole Day" wildlife fair which is attended by up to 4,000 people each year. This site has been monitored by a group of volunteer students ranging from grades three to seven. These students have monitored this site for the past two years on a weekly basis from early June through late August.

**Question:** Does Stoney Ridge Farm produce a greater percentage of monarchs than the rest of Minnesota?

**Hypothesis 1:** Stoney Ridge Farm will produce a greater percent of Monarchs on milkweed compared to the rest of Minnesota.

**Hypothesis 2:** Stoney Ridge Farm will produce a lower percent of Monarchs on milkweed compared to the rest of Minnesota.

**Hypothesis 3:** Stoney Ridge Farm will produce a higher percent of monarchs on milkweed one year but not the other year.

**Null Hypothesis:** There will be no difference in the number of Monarchs on milkweed found at Stoney Ridge Farm compared to the rest of Minnesota.

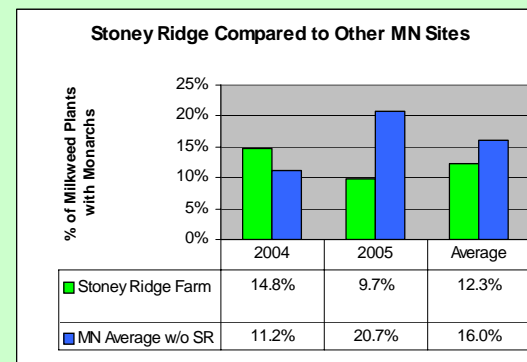


## Methods

1. Each week we monitored one hundred milkweed plants looking for monarch eggs and larvae.
2. If the plant has an egg or larvae we examined the plant for herbivory disease and if it is senescing (yellow or dying).
3. We also recorded the plant height, buds, flowers, seed pods and presence of other insects.
4. We recorded our findings on a data sheet. The data were entered into the MLMP research website.

# of Monarchs - MLMP Sites	2004	2005
Shakopee	30.0%	73.4%
Duluth Knowlton Creek	9.0%	33.0%
Falcon Hights	7.0%	18.0%
Roseville	9.6%	6.1%
7 mile Creek - Mankato	20.0%	16.1%
Long Prairie	2.1%	6.0%
Chanhassen	2.6%	3.6%
Duluth - Lower Chester Site	9.4%	9.6%
<b>Stoney Ridge Farm *</b>	<b>14.8%</b>	<b>9.7%</b>
<b>MN Average w/o SR</b>	<b>11.2%</b>	<b>20.7%</b>

*"It was cool doing real science!"*  
*"I enjoyed the beauty of Stoney Ridge Farm."*  
*"I was excited when I found a monarch on one of the milkweed plants."*



**Conclusions:** Monarchs are successful at Stoney Ridge Farm. It is possible that the site was more successful in 2004 because a strip was accidentally plowed, resulting in a great deal of fresh milkweed growth. Next summer we will mow a section of our site in the middle of the season so we can compare the number of monarchs to see if disturbing the field makes a difference. Even though we found the number of monarchs at our site differed from the average of the other nine, the difference was not significant. Comparing for two years does not give us enough information to strongly support any of our hypotheses. We are looking forward to continuing our study in the future.

**Results:** In 2004, at Stoney Ridge Farm, 14.8% of the milkweed plants had monarchs on them compared to 11.2% at other MLMP sites across Minnesota. In 2005, at Stoney Ridge Farm, 9.7% of the milkweed plants had monarchs on them compared to 20.7% across Minnesota. These data support our hypothesis 3.

## References:

MLMP website and monitoring guidelines.

## Assistance for the project was provided by:

Laura Molenaar, Monitoring supervisor  
 Jim Molenaar, Assistance with chart  
 Roger Strand, Owner of Stoney Ridge Farm