

ERADICATE APHIDS ON MILKWEED USING MILK

April 2016 discussion on the World Wide Butterfly Breeders Forum

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Adam Cotton provided our list members with the following link (below) to a scientific paper about using milk to eradicate aphids on milkweed. Several list members tested this and found it to be highly successful. See the posts and reported experiences below.

Linda Rogers

www.butterflyboutique.net

“I just found this paper about the Japanese purple emperor, *Sasakia charonda*, in which the authors used a 5% solution of milk diluted with water to kill aphids on the larval foodplant without affecting the larvae. I was wondering if anyone had ever tried this method before?”

https://www.academia.edu/2573818/fragmentation_on_the_three-way_interaction_among_ants_aphids_and_larvae_of_the_giant_purple_emperor_Sasakia_charonda_Hewitson_a_near-threatened_butterfly

Adam.

Adam, I don't know anything about this option, but what a useful addition to our knowledge for us to try! Regards, Nigel

Adam,

This is the news I think we have all been waiting for, especially when you breed Monarchs!!!! I have 2 beds of *Asclepias curassavica* that have been defoliated by aphids that I have been too busy to tackle manually. The ladybird bugs have not been able to cope either. I am allergic to garlic, etc. One bed will be sprayed with milk today! The other will be left as a control. Thank you!!! Yes, I'll do before and after photos.

Ellen Reid
The Bible Museum
St Arnaud, Victoria Australia, 3478

Further From Ellen:

Further to the 5% milk spray that Adam alerted us to:

I diluted 30ml full cream milk with 570ml warm water (to help disperse the fat in the milk and water) and sprayed the milkweed plants that were covered with aphids. Nothing happened at first.

I checked about an hour later, and the aphids were still there. But, when I touched them they fell off! They were dead! I hosed them off, and they plants stayed aphid-free. Wow!

So I collected all the Monarch larvae on the few plants left in the garden, and sprayed the aphids. Hopefully by tomorrow we will no longer have an aphid problem!

I also sprayed some Hoya flowers and Mandevilla vines which are Asclepiadaceae. They also had aphids.....and this reminded me that last year we lost all the Asclepias syriaca flowers to aphids, so did not have any seed pods.

I'm sorry for the ladybird bugs that have lost their food, but they were not fast enough.

Another use for 5% milk in the garden is for powdery mildew. We have powdery mildew on Verbena bonariensis and Gomphocarpus fruticosa at this time of the year, when it is cooler and damper.

Ellen Reid

The Bible Museum

St Arnaud, Victoria Australia, 3478

From Val:

I have used a milk spray and egg shells for my tomato and Rose plants to keep mildew & black rot away - looking forward to trying this in my milkweed in the coming season. Thank-you for the sharing a. Will let you know our experience.

Val Ware

From Tracy V.:

This is an incredible find! I will commence immediate dousing of aphids with 5% milk. Fortunately, here in the Great State of Texas we have few regulations pertaining to most anything. That's generally not a good thing in many cases, but I think I must agree that dilute milk does not need to be regulated.

-Tracy V.

From Nicolas:

Hi Adam,

Aphis nerii is a very important parasite for my diverse Asclepia plants in a natural pasture I have. It is practically impossible to control via manual practices. They end up winning whatever I do with my fingers or the amount of ladybirds present. I have also tried Agrical. oils and the results are variable. I can only think that milk has a similar effect to oils, it contains fat and will asfixiate the aphids. Since we produce 20.000 liters of milk a day, a lose money in the process, I will try the milk system.

Regards, Nicolas

Photos and More, From Ellen Reid:



This is an example of the number of aphids that were on some milkweed stems. There's a ladybird bug up the top who wasn't working fast enough. This plant was sprayed yesterday. Today the majority of aphids could be knocked off with hose water. They were dark and shrunken in size. There were a few left that looked alive (still fat and yellow), so I gave them another spray. I collected a few small Monarch cats from the bed that I'd missed collecting before the initial spraying. They seem to be unaffected by the spray. It is hard to believe that there is a spray that butterfly breeders can safely use! Once again, thank you Adam!
Ellen.

From Jacqui:

Wow, that's exciting! IF ONLY I had known about this two months ago. Was raising lots of plants, like thousands, and lost the majority... until the ladybirds arrived. Look forward to sharing this advice!

Jacqui

From Alvinus:

What's in this milk spray?

From Ellen:

Hi Alvinus!

First of all I removed all the Monarch cats that I could find on the plants. I mix 5ml full cream milk (also called whole milk) with 95ml warm water. It would be 25ml milk in 475ml water in a 500ml container.

I use a spray bottle that does not have a mesh cover at the bottom of the suction tube. The milk mixture is sprayed all over the aphids, and most will die within an hour. I then hose them off with water.

I respray the next day if there are still aphids on the plants. I later found a few small Monarch cats, and they seemed quite healthy. Today I spoke with a butterfly keeper at Melbourne Zoo butterfly house.

They said that their milkweed plants were badly affected by aphids, and they were very pleased to hear that there is a safe spray. They had never heard of a milk spray. We were alerted to this last week by Adam in Thailand. Where are you?

Ellen.

From Nicolas

Hi Ellen,

I have read the details of this system of spraying milk for the yellow aphids on Asclepias. I have also wondered how this affects the aphids. My first thoughts were that, since milk contains fats, it would work the same way any oils would on aphids, stopping up their respiratory pores, and thereby asfixiate get them. Since I do use the oils, with variable results, and you mention you have excellent control, I will try the milk system myself. There may be other compounds within the milk components that will also affect the aphids. I know by now that the lady birds are not effective, since aphids reproduce much faster than they can eat them. It just puts more food on their dinner plates. At this time of year (autumn), on my nectar and host plant prairie, the Asclepias are very much affected by the aphid attack. Some have dried up, and just starting to sprout from the roots. Others are slightly affected, and some not at all. I would say that the most sensitive are the Asclepia incarnata, then the A. curassavica, then A. curassavica in its yellow form, and lastly the A. tuberosa. The aphid invasion is also coming to an end, just a few around, which are easy to control. I will try the milk spray on what there is now, but will also replicate during next season.

Regards

Nicolas

From Ellen

Hi Nicolas!

Yesterday I collected about 20 Monarch cats from the worst aphid-affected *G. fruticosus* milkweed bed. All that was left were thin straggly leaves and thin stems. This bed had been sprayed with milk, and later hosed with a jet spray three times, and the cats had survived all that! I started spraying with milk on 7th April, yesterday (15th) there was fresh growth on many *A. curassavica* (red and yellow) plants that I'd given up on. The *A. incarnata* were the first plants to be hit by the aphids, and they had nearly all died back anyway.....but I sprayed them and hopefully fixed that tub. The *G. cancellatus* plants were heavily infested with aphids, and have needed several sprays. I had pruned them back, and they are shooting again. The *A. syriaca* plants were heavily infested. Most had been pruned for Monarch food, (I had to first brush the aphids off the undersides of those huge leaves), and they now have fresh leaves. We are having a week of warm weather so I hope this new growth will keep our Monarchs eating into May.

Ellen in Oz

From Tracy V.:

Hi,

I wanted to try the milk spray on our milkweeds but the local predators had managed to pretty much exterminate them before I got to it. However, after looking around I found some sand milkweed vine and some *Araujia* that had oleander aphids on them. I formulated the concoction and sprayed it on the aphids.

I came back the next day and much like Ellen reported, the aphids had stopped moving and were easily brushed off. The next day the remaining aphids on the *Araujia* were brown/ black. I confess that I was skeptical at first, but so far I cannot disprove the hypothesis that the milk spray is ineffective. I'll have to wait for more aphids. I'm sure they will be back.

I really hope this works.

-Tracy
