



Propogating/Using beneficial Fungus - For Canada Thistle

Posted by [John Knisley](#)

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[John Knisley](#)

[Propogating/Using beneficial Fungus - For Canada Thistle](#)

June 12, 2016 06:11PM

Registered: 9 years ago

Posts: 12

Hello there, my wife and I run an organic vegetable farm and orchard in Minnesota. One of the issues we face is trying to control Canada Thistle (ironically from Europe) in our native prairie field border and some places in the garden. Over the past few years, as the land has less and less residual chemical from when it was being farmed conventionally and now, as the land repairs itself we have some thistle. I would not normally be concerned about this too much, but its a pretty noxious weed and by MN rule and being good neighbors - we should help to control it. We have been digging it, mowing it, and even burned it out of the prairie but its still there.

One thing that is being researched now is collecting leaves of the Canada thistle that are infected with "Canada Thistle Rust" and adding it to a sprayer and spraying other patches. The new research from the Colorado Dept of Ag says that on the low end it kills 45% of the thistle and more commonly up to 100%. The rust is specific to Canada Thistle and does not kill other plants. Apparently its common in thistle but hard to spread naturally from plant to plant because of the distances between patches of thistle.

My question to this group is: If I can gather infected leaves, how do I keep the fungal spores usable in a solution so I can spray them on other thistle patches? What would be the best vehicle for spraying these spores?

[www.colorado.gov]

Thanks,

John Knisley

Zone 4b

Madelia, MN

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[Michael Phillips](#)

[Re: Propogating/Using beneficial Fungus - For Canada Thistle](#)

June 22, 2016 03:46PM

Moderator

Registered: 11 years ago

Posts: 621

Seems few of us have thistle rust, John. I'll pass along a couple of fungal bits pertaining to orchards that may or may not be relevant . . . but then that's the purpose of this forum . . . for growers to actively share speculations and observations so we collectively get to the bottom of a thing. Sooty blotch and flyspeck become visible only once sexually mature. Thus seeing either of these aesthetic diseases is to know spores are ready. Rust diseases on apple and pear involve a co-host, and in that case, the fungal organism must go back and forth to produce the fruiting bodies appropriate to return to the respective host in the cycle. Cedar apple rust and the like are a full-on biotrophic disease organisms, infecting but not outright killing tissue in its entirety (though admittedly weakened leaves will defoliate). All that may not have a thing to do with "thistle rust" other than to say if the spores are mature, those spores will be maintained in a spray slurry for application elsewhere.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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[John Knisley](#)

[Re: Propogating/Using beneficial Fungus - For Canada Thistle](#)

June 29, 2016 12:21AM

Registered: 9 years ago

Posts: 12

This is perfect Michael - just knowing how fungal spores work in this way is awesome. I am already noticing some rust on the thistle and I will just add some of the material to a backpack sprayer with water. I will let you know the results and timing.

Thanks again for hosting this great forum!

John K

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[Paul Weir](#)

[Re: Propogating/Using beneficial Fungus - For Canada Thistle](#)

July 22, 2016 07:47PM

Registered: 11 years ago

Posts: 187

Hi John,

I say go for it. I really like the idea of fighting fire with fire in the thistle counter attack you are planning.

One thing that comes to mind for me is the environment present when the thistle rust spores typically germinate and take hold - highest percentage of likely infection. I imagine it is temperature (high/low) related and some level of moisture dependent too. If you are familiar with the typical life cycle of that pathogen, even just from your casual observations, it might help you to emulate the proper conditions to get a take on the patches you are looking to really drop the hammer on. . . Worst case, the kill will be minimal, but if they are quoting a 45% minimum kill, perhaps it is quite straight forward. 45% is a pretty solid death rate for an organic approach and a step in the right direction, regardless.

I like the back pack sprayer approach.

You might even harvest a few batches of the dying thistle and keep it aside for spraying at an alternate time of the year, more inline with when the rust is naturally being released and plants are most susceptible . . . later winter, late spring, early summer, mid summer . . . you will likely know best, as you learn more about the fungal life cycle in question

Good luck and keep us posted . . . Love to see some before and after photos posted up here John!

Cheers

[Gopher Hill Apples](#)

Zone 8 in California

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[John Knisley](#)

[Re: Propogating/Using beneficial Fungus - For Canada Thistle](#)

December 30, 2016 05:53PM

Registered: 9 years ago

Posts: 12

Update - I had not done a great job on collecting the thistle rust this year - in fact I was having a hard time finding the rust (not the thistle) on our farm. I will be conducting the research in 2017 for sure - even if I have to see out the rust somewhere.

Stay tuned...

John Knisley

Madelia, MN

Zone 4b

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