



Holistic Spray Recipe: For All Orchard Plants

Want to keep your fruit trees healthy and happy without resorting to chemical pesticides and fertilizer? This holistic spray, adapted from Michael Phillips' book *The Holistic Orchard* will start you off on the right path. We apply this to all of our orchard trees and nursery stock 3-5 times per year; there are two ways of performing this spray, and we do a mix between the two methods, depending what we have time for:

The Bare Minimum Method (will maintain orchard health, but will not encourage productivity as much):

1. Green tip/tight cluster in April
2. 20-30 days later in May, add Bt if needed
3. 20-30 days later in June, add Bt if needed
4. Possibly in fall if dealing with peach leaf curl, use extra effective microbes

Bt = Bacillus thuringiensis; an organic, biological insecticide that targets caterpillars. Find it at any chain with a garden center, eg. Home Hardware

The Production-Oriented Method (supports trees and fruit to produce less seconds, follows Michael Phillips much more closely):

1. Green tip/tight cluster; can add extra liquid fish and neem oil if needed
2. Pink/end of bloom; can add extra liquid fish and neem oil and/or Bt if needed.
3. 2 weeks later/after petal fall; add Bt if needed
4. 1 week later; add Bt if needed (unlikely)
5. 1 application of Effective Microbes in October

We have found even simply doing the Bare Minimum Method annually is very helpful in reducing apple scab, cherry leaf spot, and other fungal problems, as well as reducing insect damage. Since adopting the holistic spray, we have also completely stopped using lime sulphur and other "organic" chemicals simply because they are no longer necessary. We highly recommend the holistic spray from our own experience.

Ingredients:

- Cold-pressed, raw neem oil (available at Black Swallow Living Soils in ON)
- Cold-pressed, raw fish hydrolysate (available from us - 'Fish')
- Liquid seaweed or kelp (available from us - 'Alga')
- Effective microbes (EM) (available at Organic Gardeners Pantry in BC or Nurture Growth in ON)
- Mild biodegradable dish soap (available at any health food store)
- Unsulfured blackstrap molasses if activating your own EM (available at any health food store)

Step 1: (Only If Activating Your Own Microbes), 10 Days Before Spraying:

1. For 400L (100gal) of spray, fill a clean 4L jug ½ full with warm, non-chlorinated water (~50°C)
2. Add 3/4c molasses, shake to dissolve.
3. Add 3/4c mother culture, shake well.
4. Fill remainder of jug with lukewarm water and place away from bright light; on top of a fridge or near a fireplace/heater is great so it gets some residual heat.
5. Keep warm 2-3 days (~30°C). Your fermentation may take longer if you keep it at cooler temp.
6. Keep at room temp or a bit warmer during the following days; you may want to off-gas it as it will get a bit fizzy.
7. If it smells earthy activation was successful while a sour smell means activation failed; if successful it can be stored a few days.

We don't bother tracking temp that closely while we brew, as EM seem not to be too picky- don't stress if you don't have the perfect 30C chamber to brew your EM's!

Step 2: Spray Day!

- Use only an agitating sprayer to avoid plugging your sprayer with neem.
- Choose a time when direct sunlight is limited and when air temperatures are cooler. Early, still mornings and evening are best, ideally before a rainfall.
- Make sure your neem oil is liquid before you start; set it in a sunny location a few hours before spraying or somewhere warm, as it solidifies in cool temps. We recommend having a designated neem-soap mixing pail so you can thoroughly emulsify the neem with the soap before it goes in the sprayer. Start filling your sprayer with warm water to keep the neem dissolved.
- For small orchards or young trees, the 5L mix will be plenty. Use it all up (even as a soil drench if you made too much - it will still be beneficial), since it doesn't keep.

For 5 Litres of Spray:

25mL neem
1mL soap
100mL fish hydrolysate
50mL EM
12mL liquid seaweed/kelp

For 20 Litres of Spray:

100mL neem
4mL soap
400mL fish hydrolysate
200mL EM
50mL liquid seaweed/kelp

For 50 Gallons of Spray (what we use):

¼ gal. neem (1L)
2 tbsp soap
1 gal. fish hydrolysate (4L)
½ ga EM (2L)
1/8 gal liquid seaweed/kelp (½L)

For 4 Gal/15L of Spray (backpack size):

75mL neem
Small squirt soap
300mL fish hydrolysate
150mL EM
40mL liquid seaweed/kelp

1. Mix the recipe in the amount that fits your needs; fill your sprayer about 50% full with lukewarm water, add your ingredients in the order listed.
2. Spray on trees to the point of run-off; coat leaves, branches, trunk and the ground under the dripline of the tree.
3. Flush your sprayer thoroughly before any residual neem solidifies inside it; you can use the rinse water on your flowerbeds!

This spray can be used on pretty much any plant, and all components are safe for birds, bugs, bees, etc. Neem oil only affects small, soft bodied insects that are chewing on a neem-coated leaf like aphids and various larvae. It would be fine to use on garden veg, however we recommend crops that will be eaten within a couple weeks forego the holistic spray, unless thoroughly washed to remove the pungent flavours of fish, neem, and seaweed.