

Please go to the Randy Oliver web site Scientific Beekeeping and review his latest Oxalic Acid Extended release updates. You can find them by going to the right hand side of the page and selecting Varroa Management then Treatments for Varroa and finally Instructions for Extended Release Oxalic Acid.

Also on the Randy Oliver web site you will find the latest legality updates, dosage, delivery matrixes, preparation and application information.

I have printed out copies of his "07/04/2022 OA Pad Preparation" and a newer version. The reports are to go along with the steps on these sheets on how I process the sponges.

I have made a few batches of OA on different types of matrix. Started with the blue shop towels for use in my hives in 2018. Used shop towels for two years and then moved to the Swedish sponges with 50 grams of solution and then on to sponges with 100 grams of solution.

Please heed the warnings of using safety equipment when handling the OA – it is an acid. Wear eye protection for that one little drop that gets away from you. Wear nitrile gloves with longer cuffs if possible. The OA tracks around like honey. My experience was getting it on the bottom of my arms without realizing it. After a little while you will feel the acid burning you. Time to dip into the baking soda solution to neutralize the acid.

Two years ago yellow Swedish 6x6 sponges were used that hold 50 grams of solution – (weight to weight) 25g OA and 25g Food grade Glycerin.

Last year the dose went up to 100 grams of solution. So four half yellow sponges were used on each hive for a total treatment of 100 grams of solution for a hive with two brood boxes. Drawback is that when doing inspections there are four sponges to remove and remember to put back.

Randy now recommends 100 grams of solution in at least 55 square inches of sponge for full efficacy and can be up to 60 square inches of sponge. A larger 6 ¾ x 8 sponge is now being used which has 54 square inches and my test pads are holding about 91 grams of solution. Now for inspections there will be two sponges to remove and put back. If more treatment is desired you could add additional OA prepped sponge area.

Listed below are the steps that I use in the making the sponges:

Found that the easiest way to cut the sponges in half seems to be using a cutting mat, straight edge and a rotary cutter. Cut up the number of sponges you need for batch.

I generally put the new cut sponges in water to get them wet. Then remove most all of the water and let them dry overnight. Seems like they take up the solution better after that.

When doing a single sponge test run it really helps to use a double boiler which makes it much easier to control the heating of the solution. Can do a larger batch without the double boiler as there is a larger volume of solution to heat.

I have only used the double boiler on the test batches but plan on using it for the larger batches too.

Do a trial run on the type of sponge that you will be using (6 ¾ x8). Prepare a single 100 gram solution (weight to weight) 50g OA and 50g glycerin, heat it up and put two sponge halves in to see if they absorb all of the mixture. I like it if the sponges are full and there is little extra solution then you know the sponges have absorbed as much as they can. Once it is known what each sponge will absorb can scale up for a bigger batch.

When your test sponge is cooled put it in a freezer zip lock bag and label with dosage and date prepared. Weight the finished zip locked sponge on your digital scale. Then weigh a dry sponge and zip lock bag and subtract that weight from the weight of the finished sponge and bag. The result should give a pretty close weight of the amount of solution in the sponge.

Equipment used:

Digital scale.	Measuring spoons/cups.
Wood stirring sticks.	Oxalic acid.
Swedish sponge storage tub.	Paper towels.
Drying rack and supports.	Lighter.
Heat sensing gun.	Measuring cups.
Set of tongs.	Food grade Glycerin.
Swedish sponges cut in half.	Tub of water with baking soda added.
Propane stove.	Stainless steel pan (OA discolors pan).
Bigger SS pan for double boiler.	Pan spacer.

Have batch of sponges cut on edge in a plastic tub (that fits sponge size) ready to pour the solution onto.

A ten sponge (6 ¾"x8") batch of 100 gram (50 g OA / 50 g Glycerine by weight) will require 500 grams of OA and 500 grams of Glycerine.

- 1 Oxalic Acid – measure 50 grams OA per sponge or 25 grams per half sponge and put into a plastic cup while weighing on a digital scale.
- 2 OA goes into Stainless steel pan.
- 3 Food grade Glycerine – measure out 50 grams per sponge or 25 grams per half sponge by weight on digital scale.
- 4 Glycerine goes into Stainless steel pan.
- 5 Light the propane camp stove – very low flame. Little higher when using double boiler.
- 6 Put pan of solution onto stove to heat.
- 7 Use wooden stirring stick to stir solution and crush lumps in OA.
- 8 Use digital thermometer to measure heat of the solution.
- 9 Keep your eyes on the ball – don't get distracted.
- 10 Stir the solution – starts to clear by 120 degrees – keep it stirred.
- 11 Liquid will be all clear by 140 degrees.
- 12 Can heat a little more – take off heat by 150 degrees. Warmed to 150 gives a little extra time to move sponges around to soak up all of the solution before it cools.
- 13 Heating to max of 160 degrees – 170 degrees it bubbles and can be ruined.
- 14 Pour hot solution over cut sponges in plastic tub– one or two gloves on. Single glove works best so there is a clean hand to start clean up.

- 15 Flip cut sponges over with tongs or glove to get solution well distributed before solution cools.
- 16 Can massage or/and press them gently to make sure most all of the solution is soaked up in the sponges.
- 17 You can try to pour off the excess solution if there is any. It usually cools before I can get it poured out.
- 18 Now sponges go out onto drying rack to cool – leave overnight to dry.
- 19 Next day put the dry sponges in freezer zip lock bags – date and label with dosage. Then put all of the zip locks in a bigger freezer zip lock bag or container that seals up.
- 20 Ready to use.
- 21 Clean up all equipment with the baking soda solution to neutralize the acid. Rinse with fresh hot water.

SPACE IS BELOW FOR NOTES