COMMUNITY LETTER

Making, Storing, and Testing the Biodynamic Preparations

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GREETINGS!

I am writing in response to a recent article entitled "Nitrogen Dynamics of Biodynamic Horn Manure," which was published in the Spring 2014 issue of *Biodynamics*.

In 2008, within the framework of the Fellowship of Prep Makers, four committees were formed. One was the Prep Evaluation Committee. This committee met every month by conference call, with Malcolm Gardner doing an excellent job facilitating the meetings.

The Prep Evaluation Committee's original intention was to explore kitchen table methods for evaluating the quality of biodynamic preps. Building on the work of Will Brinton in 1986, representatives from regional groups in New York, Oregon, and Wisconsin, plus Joe Brinkley in California and JPI in Virginia, began discussing how to test horn manure.

The commitment and coordination of the participants, which led to results described in the study, was superb. Lack of funding has always been a major hurdle when it comes to testing biodynamic preps or practices. The regional groups and individuals raised about $13,000 to cover the actual costs of lab tests. Time was volunteered. (I call this a social credit.)

I am of the opinion that this initial testing of horn manure should be continued with some modifications. First, establish protocol for the storage of horn manure once it is dug up and during the time it waits in the lab for testing. Second, test in the lab again for pH, nitrogen, nitrates, and respiration only. Third, correlate lab tests with chromatograms or other similar evaluation methods.

As stated by Jeff Edelman, "[a]cross multiple experiments, we observed significantly higher total nitrogen, higher nitrates, lower pH, and lower respirations in manure buried in horns compared to glass jars."

This leads to questions about 500 horns buried in different regions of the U.S. For example, here in north-central Minnesota, the cow horns I bury in the fall are in frozen soil from early December through the end of March. I have noticed that, when digging up horns in early April, if the ground is still frozen, the manure inside the horn has transformed and is not frozen. It is a living substance like a perennial root. Wali Via says that western Oregon can receive up to sixty inches of rain during the winter, and the ground does not freeze.

On the last page of a small booklet called *Bio Dynamic Agriculture: Introductory Lectures, Vol. 3*, by Alex Podolinsky, one paragraph describes a method of testing BD 500. It reads as follows:

> The excellent Italian biodynamic preparation maker Carlo Noro came up with an interesting comparison test series. Into equal test jars filled with equal amounts of water he inserted equal amounts of the following:
>
> Compost, which disintegrated and mixed with the water in 0.5 to 1 hour.
>
> BD 500, which held together for 2 to 3 days.
>
> Prepared 500, which remained a colloidal ball without discolouring the water for over 30 days and had not fully broken down one year later.

Perhaps along with our personal sensory observations, this water testing method will enable each of us to better judge the quality of our BD 500.

It is hard for me to look at green manure coming out of the occasional horn (sometimes many horns) in the spring. It has not transformed over the winter into a non-fibrous, colloidal, humus-like substance. Can I call it 500? If I rebury the horn or leave it out to oxidize in the air, the green manure will turn dark. Is this 500?

I feel there is a need to establish by consensus, and through intensive testing, some best management practices and standards by region for making and storing the biodynamic preps. Maybe some regions produce horn manure with higher pH values and lower nitrate levels than other regions as a reflection of the interaction of cosmos and earth.

In closing, I would like to propose the following five recommendations:

1. To this letter, I have attached pictures of well-ripened BD 500, prepared 500, and 500. I used a quart jar two thirds full of water and placed a lightly squeezed ball of 500 about the size of a golf ball into the water. I encourage others to try this tabletop water test method and document your results.

2. Use a simple pH meter and take a pH reading of your 500 sample. Document this result along with water test results.
3. Determine how we can share our results with one another.
4. Come up with other suggestions for testing methods. Share these. (I feel there is a great need to find people able to make and read chromatograms of biodynamic preps.)
5. With multiple regional representation, start a new Prep Evaluation Group to build upon the prior testing of BD 500.

If you have any suggestions or comments that you would like to share, I can be reached at (218) 366-1296 or sgmorg@wcta.net.

Commentary on tabletop water tests conducted in mid-July 2014

Prepared 500 sample has been in storage for one year.

- After five minutes this prepared 500 floats on the surface of the water, which is not good. Even though the sample felt moist when I pressed it lightly into a ball, the water test shows that the sample dried out somewhat in storage.
- After twenty-four hours, the prepared 500 sample hydrated and no longer floats. It is slowly falling apart, and water is becoming discolored. This indicates it has lost most of its original colloidal nature.
- I know from experience that stirring and spraying this batch of prepared 500 will not do much to restructure the soil beyond what normally happens with growth and decay of feeder roots in a natural or organic environment.

BD 500 sample was dug up towards the end of May 2014.

- Tabletop water test reveals good colloidal structure. The water shows little discoloration after twenty-four hours. The sample has not started to disintegrate.

Ripe 500 sample is a blend of 500 taken from several horns dug up in late May 2014.

- Although the sample felt moist, its colloidal structure could be better, as indicated by how quickly the ball fell apart in the water at the five-minute mark (although I did not press this sample together as much as the other two).
- After twenty-four hours, part of the sample started to float. I think this happened because the fiber content in the sample was not well broken down.

Conclusions: In doing the water test, I learned I need to make serious improvements to fine-tune my storage methods for all the biodynamic preps I make—beyond what are presently recommended storage practices.