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## **Organic Gem Report**

By way of introduction, I am, among other roles, a gardener, and I have close connections with a greater gardening community in my area. Organic Gem came to my attention through the auspices of my longtime friend Mikal Merlina.

I have also had the pleasure of learning more about the product from Dennis Piluri. I have had the opportunity to discuss a few of my observations with him and Mikal.

As to my background, I have done professional landscape installation but have worked primarily as a garden designer for more than 20 years. I taught landscaping and landscape design for the adult education department of the Community College of Allegheny County (PA) for 11 years. I have been a presenter in the Master Gardeners' lecture series and have also lectured to many garden clubs, as well as having participated in various gardening symposia. I have been the guest host on several occasions (some years ago) for the WTAE Pittsburgh Sunday morning talk radio gardening program.

Presently, I live and garden in a rural, mostly wooded, area of Greene County, PA. The site is on a northwest facing slope, is largely shaded and experiences a cool microclimate relative to the region in general. Soil is heavy clay and very slightly acidic (about PH 6.8 in most places). Topsoil is thin and scant except in areas I have had under cultivation (I have been working with the oldest beds for 11 years). Planting is mixed for partial sun to full shade. I grow fruit and ornamental trees (mostly deciduous), a few shrubs, many herbaceous perennials and bulbs. I also maintain a small area dedicated to vegetables and herbs.

I have regularly amended the soil in spring with a light top dressing of compost and rotted manure. I also applied a relatively thick dressing (2 to 3 inches) of mushroom manure to the beds several years ago to bulk up humus

content. Prior to this past season (2009), I had augmented soil fertility by scratching in slow release granular fertilizer (10-10-10 and 5-10-10) in early spring and periodically thereafter for plants that are heavy feeders, amounting to 50 to 70 lbs annually over a cultivated area of about 6,000 sq ft. I followed a regimen of proprietary sprays (Orthene, Orthenex and Daconil) to control insects and disease. I also have a persistent problem, common to this area, of damage from deer browsing. I had attempted to control this with a home-concocted egg-based spray. This was marginally successful but not always efficacious.

After consulting with Dennis and Mikal, this past season I decided to alter the foregoing routine in favor of OG. I shall attempt to relate methodologies and results. Please keep in mind that observations are anecdotal, since, under the circumstances, it was not possible to isolate a control group against which to base comparisons. We intend to remedy that in future.

This past season I used OG exclusively to fertilize the garden. Initially, I had a gallon each of traditional OG and the new blend. It had been my intention to segregate treated areas accordingly, but I was unable to maintain this practice throughout the season, so I have no observations to offer regarding the relative merits of the two products. Again, this is a test measure that we hope to remedy next season. Also, for curiosity's sake, I applied the usual compost/manure dressing to certain beds but not to others.

I began treatment of the soil in planting beds after new growth emerged in the spring (late March) at the recommended rate of about 2 oz per gallon of water. Per Mikal's advice, I supplemented the mix with diluted blackstrap molasses. Where applicable and plants were accessible, I continued ground application at about 1 month intervals throughout the growing season. For plants that are heavy feeders, such as roses and tomatoes, I used a higher concentration of OG (about 3 to 4 oz per gallon). Once plants were sufficiently leafed out, I commenced foliar spraying (without molasses) at a dilution of 1½ to 2 oz per gallon and continued application at about 7 to 10 day intervals. There were, however, two gaps exceeding 2 weeks. I shall remark on these directly.

**Results and Observations.** It was evident later in the spring (late April and May) that new plant growth was healthy and vigorous, including the beds that received no compost/manure dressing. In comparing growth to other gardens nearby, plants in my garden appeared to be farther ahead than the

norm. Although by the end of the season it was apparent that plants, which had received the compost/manure dressing, had performed better, results overall were comparable or superior to years when I had applied granular fertilizer.

I had decided not to use any of the proprietary insect/disease control sprays previously indicated, unless conditions warranted them. Initially, I noted little damage from insects or fungus while I was spraying OG at approximately weekly intervals. However, after a hiatus of a little over 2 weeks (I had been abroad), I returned to find considerable fungus (mostly powdery mildew on phlox, etc.) as well as some insect damage. On this occasion, I sprayed affected plants with Daconil or Orthenex (although not vegetable plants) and then resumed the regimen of foliar spraying with OG. As long as I continued this routine, the spread of damage was either arrested or slowed considerably. I should point out that this past summer was exceptionally cool, cloudy and dank: conditions, of course, that favor fungal diseases.

I continued the routine of foliar spraying at approximate one week intervals through the growing season until mid August, especially to vegetables, roses and other plants susceptible to problems. During this period there was minimal (certainly acceptable) damage from insects and fungus. In previous seasons I had had disappointing harvests from cucurbits, especially cucumbers (Asian and English), due to bacterial wilt introduced by insects, such as the cucumber beetle. Characteristically, many plants withered before even bearing fruit. By contrast, this past season, I harvested summer squash until the beginning of October and cucumbers until early September. It is a significant improvement over previous seasons, and, in the case of the cucumbers, might have continued longer if the regimen had not been interrupted once more.

In mid August I depleted my supply of OG. It was about 2 weeks before I secured additional product, so there was a gap in the foliar spraying regimen. It was, perhaps, a fortuitous oversight, since it allowed “negative” results to be observed. Toward the end of this second hiatus, there was a marked increase in insect damage as well as fungus, such as powdery mildew and black spot. Cucumber vines, for example, showed increased signs of wilt, and tomato plants began to evidence Late Blight, a fungal borne affliction rampant in the area this past season. Subsequently, the crop failed entirely,

whereas previously the plants were relatively healthy, considering the unfavorable climatic conditions.

My conclusion is that OG, applied as a foliar spray at about one week intervals, is, in itself, a significant deterrent to both insect and fungal damage.

The other prime conclusion is that, in terms of plant health, performance and vigor, the use of OG alone achieved results at least equal or superior to previous seasons when I applied granular chemical fertilizer.

I would also like to address the issue of deer damage further. As noted, in previous seasons my attempts to control deer browsing with an egg-based spray were marginally successful. During this past season, however, there was far less damage than in previous years. What damage that did occur was only when the “fish” had worn or washed off the plants over time (usually after about 8 to 10 days, depending on conditions). From my point of view, this is a major “side” benefit of the product, one that many gardeners in this region would value.

**Future Testing.** I would like to further test and study OG under more controlled and objective circumstances. To this end, we have available a parcel of bottomland that should be quite suitable for this purpose. This land is flat, open and uniform. Since it is bottomland, there is a greater depth of topsoil than on the hillside site of my present garden. Currently, this land is maintained as mowed meadow.

It is my intention that we lay out identical, side-by-side, test plots on this site. One would be a control group to which no OG or other proprietary fertilizer is applied. Another would be treated, per the schedule earlier indicated, with the standard OG fish product. Another plot would be treated with the newer OG blend product, if feasible. I am also considering the possibility of a fourth plot, which would be additionally amended by the applications of bone meal and potash. I should add that Mikal Merlina would be working directly with me in undertaking the test.

If the concept of this test garden is agreeable, we would, of course, be most grateful for any product support the company might wish to offer.

In the foregoing, I have attempted to supply all the detail that I think is relevant. I certainly hope that the report is of some value to you.

Thank you,

Jeffrey Moyer