



## Notes from the Field by Jay Martin

### Soil remineralization

Over the years, I have read a bit about soil remineralization, but admit I didn't know very much about its influence on soil health or plant growth until recently, and still don't know as much as I would like. I have always relied on compost as the foundation of my fertility requirements and foliar feeding the crops with kelp or side dressing with an organic fertilizer if it appeared necessary. After hearing an Amish farmer speak about using minerals at the Future Harvest Conference this winter I decided I would give it a try here this year. I contacted Doug Britt, the owner of AgLife in Boonesboro, Md. who sells soil amendments, to pick his brain. Doug told me, among other things, that the results of soil remineralization would be more qualitative than quantitative.

I purchased enough rock dust from Doug to treat my raised beds in the garden at the recommended rate of 2.5 lbs. per 400 square foot of bed. The results are astonishing to say the least. The plants in the garden are more vibrant, I have had minimal insect problems and I am harvesting a higher percentage of all of the plantings so far. I have not seen the need for any additional fertilizer of kelp.

Having seen the results of using rock dust in the garden I have become fascinated and done a bit more reading on the topic. I am also convinced the results are both qualitative and quantitative. Ted has been researching rock dusts also, having seen some problems related to soil deficiencies in parts of his field. Last week he applied the minerals. We are anxious to see the results, if their application can actually rescue a crop.

Here is a little bit of what I have read lately.

Justis Von Liebig, a German chemist, is considered the father of the chemical fertilizer industry. He expanded on work done by Carl Sprengel to what is known as the Law of the Minimum or Liebig's Law. It states that growth is controlled not by the total of the available resources, but is controlled by the scarcest resource. The law is applied in economic

theory, which would be another interesting topic to explore when time allows. Liebig used the example of a barrel with staves of unequal length. Just as the capacity of the barrel is determined by the shortest stave, the growth of a plant is determined by the nutrient in the shortest supply.

This reductionist thinking is responsible for the theory that Nitrogen, Phosphorous and Potassium are most responsible for determining healthy plant growth, but it fails to take into account the dozens of other nutrients and elements essential for balanced plant growth and has resulted in severely depleted soils. Soils are naturally demineralized by erosion over thousands of years. This process has been exacerbated by our neglect of the need for a full spectrum of minerals in the soil and an over dependence on NPK. Rock dusts contain most of the nutrients and elements essential to plant growth except nitrogen and phosphorous. They work their wonders by feeding the microorganisms in the soil which then feed the plant. The beneficial effects of mineralizing the soil can last for years; improving water holding capability, improving cation exchange capacity, and reducing the need for insecticides and fertilizer inputs. I also read in one report that using rock dusts can speed up the organic transition process. In a study done on a field that had been managed with chemical pesticides for years and then having grown a crop of organic potatoes, no pesticide residues were found in the potatoes. It will be interesting to see if the USDA would allow a shorter transition time for acreage treated with rock dust.

Onward,

*Jay*

### Volunteers Needed

If you would like to learn more about the CSA operation and get your hands dirty (it washes off, trust me), contact Nancy Murphy and volunteer to help with the incredible amount of work that goes into preparing the shares that we all look forward to each week. E-mail [murphyna2003@yahoo.com](mailto:murphyna2003@yahoo.com).

## In Your Share\* This Week

Beets - Provident & Calliope Organic Farm

Squash - Provident & Calliope Organic Farm

Arugula - Down to Earth Organic Farm

Radishes - Down to Earth Organic Farm

Potatoes - Greenbranch Organic Farm

Lettuce - Calliope Organic Farm

\*Share makeup is best estimate at publication time.

Note: For preservation tips and additional recipes, visit the CSA website at <http://www.providentorganicfarm.com/>

## Arugula - Nutrition

Arugula is an aromatic salad green. It is also known as rocket, roquette, rugula and rucola, and is popular in Italian cuisine. Like most salad greens, Arugula is very low in calories. A 1/2 cup serving is two calories.

Arugula is also low in Saturated Fat, and very low in Cholesterol. It is also a good source of Protein, Thiamin, Riboflavin, Vitamin B6, Pantothenic Acid, Zinc and Copper, and a very good source of Dietary Fiber, Vitamin A, Vitamin C, Vitamin K, Folate, Calcium, Iron, Magnesium, Phosphorus, Potassium and Manganese.

**How to Store:** Rinse the leaves in cool water and dry on paper toweling. Wrap leaves tightly in plastic or a zip lock bag. Best if used within a few days.

**How to Choose:** Pick the young leaves, older leaves are a bit tougher and hotter. The flowers are small, white with dark centers and can be used in the salad for a light piquant flavor.

**Substitutes:** You can substitute water cress for a similar peppery flavor. You can also use fresh baby spinach (but the flavor will not be the same). Also dandelion greens have a tart flavor but a bit more bitter.

### Arugula Salad with Walnut Croutons

Top this quick and tasty salad with walnut croutons and enjoy a rich concentration of omega-3 fatty acids from your green salad!

#### Ingredients:

- 1/2 medium yellow onion, thinly sliced
- 1 cup hot water
- 2 TBS light vinegar
- 1 bunch arugula

#### Dressing:

- 2 medium cloves garlic, pressed
- 2 TBS chopped fresh parsley
- 1 TBS fresh lemon juice
- 1 TBS extra virgin olive oil
- Sea salt and black pepper to taste
- 1/2 cup coarsely chopped walnuts
- Optional: 2 oz gorgonzola cheese



#### Directions:

1. Press garlic.
2. Slice onion thin and soak in hot water and vinegar while preparing rest of salad.
3. Whisk together the dressing ingredients, adding olive oil at the end, a little at a time.
4. Wash and dry arugula. Squeeze out excess liquid from onions. Combine onions and arugula and toss with dressing. Sprinkle salad with Walnuts just before serving. Top with cheese (optional).

Serves 2

### Arugula Pesto

- 1 bunch arugula, stems removed (about 4 ounces)
- 2 3/4 teaspoons of coarse or Kosher salt
- 1/3 cup extra virgin olive oil
- Freshly ground pepper to taste

Fill a large bowl with ice and add water, set aside. Fill a medium sized saucepan with water and the 2 1/2 teaspoons of salt, and bring it to a boil. Add the arugula and as soon as the water returns to a boil, remove the arugula with a slotted spoon and place it immediately into the ice water to stop the cooking process.

Transfer the arugula to several layers of paper toweling or clean kitchen towels and allow to drain. Roll up the towels and squeeze as much moisture as possible from the arugula.

Place the arugula in a blender jar and add the oil, 1/4 teaspoon of salt and the pepper and puree until the mixture looks like thick pesto. There will be a small amount of oil on the surface. Use immediately or transfer the mixture to a jar with a tight fitting lid if you are going to store it. This will keep for at least 5 days, refrigerated. Before using, stir the pesto to incorporate the oil accumulated at the top. Pestos will freeze well too.

Serve the pesto over some freshly cooked pasta or boiled potatoes.