WINTER 2005

AGGRAND® NEWS

Growing Herbs Indoors With AGGRAND

Indoor herbs stay tastiest if they receive at least five hours of direct sunlight every day. Turn the pots regularly to prevent the plants from leaning too much toward the light, and don't let the leaves touch the cold windows. Fluorescent lights (warm or cool) hung 6 inches above the tops of the plants and left on for 14 hours per day will provide a more ideal growing environment. It helps if the lamps are adjustable to keep up with the plants' growth.

Most indoor herbs do best at temperatures between 65 and 70 degrees F, but are adaptable to the somewhat lower temps near the windows at night. If you want to provide them with extra humidity, place the pots on a tray with moistened gravel up to, but not over, the bases of the pots. Protect them from drafts from open doors, but give them good air circulation by allowing some space between plants. Overwatering ruins a potted herb, so let the soil surface dry out before each thorough watering (until water exits the bottom of the pot). If you see the beginnings of an insect infestation, a good shower in the sink or tub and a foliar spray of ½ ounce AGGRAND 0-0-8 Kelp and Sulfate of Potash and 1 ounce of AGGRAND 4-3-3 Fertilizer mixed together in a gallon of water will give plants a boost. This also works well as a monthly soil treatment combined with 4 ounces per gallon of AGGRAND Natural Liquid Lime.

Common windowsill herbs:

Basil: Regularly snip sprigs to keep from flowering. Will produce until it becomes woody. Use clippings to root new plants.

Chives: Cut foliage as needed. Fertilize after completely cut.

Mint: Likes cool humidity. Does well in a wide, shallow pot.

Oregano: Likes it dry and well drained. Keep it trimmed regularly.

Rosemary: Likes humidity and well-drained soil. Don't let it get too dry.

Sage: Can be allowed to dry out. Clip regularly.

Thyme: Doesn't need as much sun. Trim regularly.

Unraveling the Mystery of Fertilizer Numbers

27-3-3, 6-12-0, 8-8-8, 4-3-3. Fertilizer numbers are becoming more and more confusing as an increasing array of chemicals, designed to solve every agricultural problem, floods the market. What do these fertilizer numbers mean? What should they mean to the farmer or gardener seeking to increase yield and reduce the use of chemicals?

The numbers expressed on the label of a fertilizer are called the grade. The numbers refer to the amount of nitrogen, phosphorus and potassium (known as NPK) contained in the product. For example, 8-8-8 signifies that the fertilizer contains eight percent nitrogen (N), eight percent phosphorus (P) and eight percent potassium (K) by weight. So 100 pounds of an 8-8-8 fertilizer would contain eight pounds each of nitrogen, phosphorus and potassium.

AGGRAND Natural Fertilizer 4-3-3, like chemical-free products, is considered a "low analysis" fertilizer. Its guaranteed analysis provides that it contains four percent nitrogen (N), three percent phosphorus (P) and three percent potassium (K). AGGRAND Natural Fertilizer's analysis is based on the fact that it contains absolutely no chemicals, which are normally added to boost the NPK level of a product. Does this mean AGGRAND Natural Fertilizer is less effective than a chemical fertilizer with a larger NPK designation? Absolutely not. In fact, testing has demonstrated that AGGRAND Natural Fertilizer is more effective than the chemical fertilizers it has been tested against.

What does this mean? To gain some insight into the origin of the "numbers complex," it is valuable to look back on the evolution of agricultural research.

Agriculturalists once believed that plants literally "ate" the soil. But Justus von Liebig in the early nineteenth century planted the seed of radical change in the agriculture world. Among the discoveries backed by his chemical laboratory was the fact that plants merely extract certain substances from the soil, particularly nitrogen, phosphorus and potassium (Richard W. Langer, *Grow It!,* 1972).

From Liebig's new theory there were several corollaries to be drawn, and the nineteenth-century assault on traditional agriculture was soon in full swing. They learned that if you added enough of the right chemicals, you could even grow a bumper crop in sand or a water solution. After World War II, the chemical industry rose to the challenge (Langer, Grow It!).

Chemical fertilizers alone were suddenly deemed essential ingredients of agriculture. No heed was paid any longer to the tilth, or physical quality, of the soil. If the corn isn't growing just add more chemicals, they thought. But as more chemicals were added over the years, the organic quality of the soil was lost. Once rich, friable earth was turned into hardpan. The essential chemical ingredients were there, but high crop yields weren't. Why did this happen? Because you can't grow abundance on asphalt (Langer, *Grow It!*).

Finally, in the past few decades, agriculturalists have rediscovered soil; good, natural, organic earth, the way it used to be, and the natural cycle that nourishes it.

Fertilizer Numbers

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But now many organic, chemical-free growers suffer from a "number complex." An expert told them to use 8-8-8, so they struggle to match that grade with organic fertilizer rather than chemicals. In addition to this problem, there are other disadvantages (Robert Rodale, *The Basic Book of Organic Gardening,* 1971).

It is often difficult to equate the organic rationale with the chemical one. The result may be that the "new" organic method is difficult or confusing.

Perhaps the most common problem is that a lot of organic gardeners and farmers make the big mistake of not using organic fertilizers heavily enough on their first application. Chemical companies with a new expensive mix or super blend may advise applying at the rate of 200 pounds per acre, or a pound or two for the whole vegetable garden. Then when the organic grower wants to convert, he still thinks in terms of such applications.

The best advice is to forget about the numbers and concentrate on a long-range fertilizing program. Once this is begun, the result will be better, healthier plants and higher yields.

AGGRAND Natural Fertilizer 4-3-3 is the first step on the road to a long-range, comprehensive fertilizer plan resulting in stronger, more disease resistant plants, increased soil fertility and greater harvests.

Fall and Winter Are Decomposing Time

What to do with garden leftovers– The garden has been cleared of all the leftovers from the growing season. The leaves have been raked and the lawn has been mowed for the last time. This is the second harvest. All that's left of the nutrients and minerals that were taken from the soil to grow the fruits, vegetables and herbs we enjoyed over the summer. This represents a major investment of sunlight, fertilizer and time, so don't waste it. It's time to start up the compost heap.

Begin by layering leaves and grass clippings alternately, with some of the bulkier material between layers to trap pockets of air to help supply oxygen to the decomposing microbes. A one-inch layer of garden soil added every so often will introduce microbes and help compact the pile, allowing good heat buildup. With this method, and regular turning and wetting down (moist, not sopping), you will end up with a nutrient- and mineral-rich material called humus that is easily used by plants when added to garden soil.

To aid the composting process, sprinkle AGGRAND 4-3-3 Natural Fish-Kelp Fertilizer on the pile (3 oz. per gallon of water) before layering or turning, and leave the top of the pile concave so liquid can seep down gradually.

Worm composting– The easiest way to compost is to introduce composting worms, aka red wigglers (*Eisenia fetida* or *Eisenia andrei*), into your pile and let them do the turning. There are several places to find them on the Internet. Cost can range around $20-25 per 1000, which is all you need to get started.

Simply make a hole into the center of your pile and place the worms in it. Cover it with a healthy layer of fresh compostables and water with AGGRAND 4-3-3 and let the worms get to work. In a few weeks your compost pile will begin to shrink as the worms do their duty. They will even take care of household food scraps. Just remember to dig a hole for the scraps and then cover it with leaves.

Tests Prove Efficacy of AGGRAND Natural Fertilizer

Farmers have used an increasing amount of conventional fertilizer since the end of World War II. Initially, huge yield increases were realized, but over the last few decades, yields have leveled out and, in some cases, declined despite numerous advances in seeds, pesticides and equipment.

With increased consumer concern about residues and hazardous run-off combined with tougher government regulations, farmers have begun using more natural fertilizer products. Most of these products are incorporated into their existing practices and they report many benefits from their use.

Replicated research trials and actual field use trials conducted on AGGRAND Natural Fertilizer 4-3-3 were used to determine the effects of AGGRAND when incorporated into crop production systems in the following areas:

1. Seed germination
2. Plant growth stimulation
3. Disease suppression
4. Yields

- AGGRAND applied in the amount of two gallons per acre in the furrow increased the size of soybean plants compared to traditional treatments. There was a yield increase of five bushels per acre where AGGRAND was used.
- Lab tests showed that where AGGRAND was added to the soil, there was a significant reduction in verticillium dahliae microsclerotia (MS). Field trials (tomatoes) showed that incorporating AGGRAND in a weekly one percent foliar spray solution resulted in a 51 percent increase in total yield.
- A tomato farmer included AGGRAND Natural Fertilizer in his transplant solution (two percent) and added two foliar sprays of one gallon per spray. The AGGRAND-treated portion of his field yielded four additional tons per acre.
- Under severe disease pressure, AGGRAND treated peppers showed reduced incidence of disease and significantly increased total yield.
- Tests conducted to measure the effects of AGGRAND on suppressing and/or controlling seedling diseases demonstrated the following:

1. Increasing the rate of AGGRAND increased disease control.
2. Increasing the rate of AGGRAND provided the required nutritional needs of the plant.
3. Increasing the incubation time of AGGRAND in the planting medium increased disease control.
4. In all treatments at all time frames, AGGRAND clearly outperformed conventional fertilizer alone.

AGGRAND Natural Fertilizer is an emulsion, made from 100 percent whole menhaden fish. Its nitrogen is derived from protein. The product also contains key amino acids that have been recognized to benefit plant growth in the areas of seed germination, plant growth stimulation and disease suppression

In addition to the original goals of the tests that were conducted, the researchers noted the following observations:

1. Some tests showed increases in the soil's ability to retain nutrients where AGGRAND was used.
2. Changes in soil acidity were measured in the Ontario trials.
3. Better cell membrane permeability was noted in two rate study trials, both in root cells and leaf tissue.

These different tests suggest that the benefits measured in these trials exceed what would be expected from a fertilizer product alone. They further suggest that AGGRAND positively affects the plant in at least three different modes of action.