Organic vs Chemical - Maybe we're Organic after all!

Great News for Organic Enthusiasts!

(And everyone else who's concerned about growing healthy food)

We all want to be healthy! And to do this, we need to eat healthy produce from our gardens. Some folks believe growing organically is the only way to accomplish this - but just what does it mean to grow organically? Are mineral nutrients forbidden? I thought I'd do some research to find out, and received quite a pleasant surprise.

The USDA National Organics Program's National List of Allowed and Prohibited Substances identifies those things you can use and qualify as a Certified Organic Grower. Surprisingly it **includes mineral sources for all 13 nutrients your plants need**! Here are the happy details.

"§ 205.601 Synthetic substances allowed for use in organic crop production. (j) As plant or soil amendments: (2) Elemental sulfur (5) Magnesium sulfate (6) Micro-nutrients, (including) (i) Soluble boron products (ii) Sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum (and 2 others).

§ 205.602 Non-synthetic **substances prohibited** for use in organic crop production. (g) Potassium chloride (0-0-60) - **unless derived from a mined source** and applied in a manner that minimizes chloride accumulation in the soil. (h) Sodium nitrate (16-0-0) **- (**Natural deposits are the major source of sodium nitrate, from regions of Chile, Peru, Argentina, and Bolivia) **- unless use is restricted** to no more than 20% of the crop's total nitrogen requirement."

Phosphates, as well as lime and gypsum, are naturally occurring mined compounds that are not prohibited for use in organic gardening under § 205.602 !

Further research showed that the University of Florida, under Organic Vegetable Production, lists products that are allowable, and the list **includes urea.** And the USDA guidelines define Synthetic. (or banned substances) as "A substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, except that such term shall not apply to substances created by naturally occurring biological processes." Since urea occurs naturally, it would appear that **urea (46-0-0) is allowed!**

So what we have found is that Nitrogen, Phosphorus, and Potassium (the Macro-Nutrients) from mineral sources are allowed. Also, the secondary nutrients Calcium, Sulfur, and Magnesium from mineral sources are allowed. And finally, all 7 micro-nutrients from mineral sources are allowed!

What does it all mean? It means that those beautiful, highly productive Mittleider gardens are organic gardens after all!! :o)

Now, if we want to be Certified Organic Growers, we have to jump through a bunch of hoops, including doing soil testing to verify our soil is deficient in the nutrients we add, but for backyard gardens it's not practical or necessary. Beyond that, look below at the list of requirements for using manure and compost that are required to be Certified – it's pretty tough, but with good reason. Because manure and compost so often introduce weeds, bugs, and disease pathogens into the garden, the government wants to protect the public as much as possible from being hurt when eating organically-grown produce.

Take a look at just a small part of what it takes to Certify, and be grateful you are not trying to be a "Certified Organic Grower."

§ 205.203 Soil fertility and crop nutrient management practice standard.

(a) The producer must select and implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion.

(b) The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.

(c) The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances. Animal and plant materials include:

(1) Raw animal manure, which must be composted unless it is:

(i) Applied to land used for a crop not intended for human consumption;

(ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or

(iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles;

(2) Composted plant and animal materials produced through a process that

(i) established an initial C:N ratio of between 25:1 and 40:1; and

(ii) maintained a temperature of between 131 F and 170 F for 3 days using an in-vessel or static aerated pile system; or

(iii) maintained a temperature of between 131F and 170F for 15 days using a windrow composting system, during which period, the materials must be turned a minimum of five times.

(3) Un-composted plant materials.

That's just a few of the requirements - there are many more. I'm just happy to leave it to others - but also pleased that we can be on good terms with those who espouse organic gardening, and not have them continue to think we are "the enemy."