



ORGANIC APPLE GROWING

PART 4. TREE NUTRITION

by Dennis Mackey

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For the grower with a few trees in the backyard, I'd advise using a 4" layer of **compost**, ringed around the tree out to the drip line. Use **kelp** and **fish emulsion** as a foliar spray.

For the commercial grower, or the backyard grower who wants to make a science of apple growing, they can consider the following: In general, apples need **nitrogen** early in the season when the tree is putting on its yearly growth and forming the next season's crop. The growth period is from First Green (April) to mid-July. The following seasons fruit buds are formed during the six week period after Petal Fall. After the hardening off period of new growth begins, the tree requires **potassium** (potash) to size up the fruit for current season. An apple tree can use three times as much potassium as nitrogen. **Phosphorous** seems not to be a factor in the bearing apple tree – it seems to be able to mine what it needs. Phosphorous is, however, a necessary factor in new plantings.

The nutrition program I'm using this year (and it varies somewhat according to my soil and leaf analysis) is as follows:

- ♦ **Dried chicken manure**, applied with a Vicon spreader, which allows for a banding down the row of trees at a rate of approximately 2 tons per acre. I try to do this in November,

December and January, following harvest. In early spring, I apply **Sul-Po-Mag** (sulfate of Potash Magnesia) as a source of organic potash.

- ♦ For the last three years, I've had 1 lb/acre of **boron** blended in, because I have a boron deficiency in my soil. For a big shot of micronutrients, I use 6 oz/acre of **Maxi-Crop kelp** in every spray, up to twelve times per season. For an extra nitrogen source, I use **Mermaids Fish Powder** (12% N) in my first two cover sprays, during the time the following year's crop is being formed.

The micro-nutrients you'll need to pay attention to for growing apples are:

- ♦ **Boron** – for root growth and fruit set.
- ♦ **Zinc** – for overall tree growth
- ♦ **Magnesium** – for fruit size
- ♦ **Calcium** – for longer fruit storage and firmness
- ♦ **Copper** – the right amount in the trees plays a big part on yields.

Many micro-nutrients are restricted-use materials on the OGBA inputs list. This means you'll need to justify use, which means you will need to do soil testing and leaf analysis. The

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timing of the leaf analysis is 60 to 70 days after Petal Fall, using a single variety per sample.

Apples like a soil pH in the range of 6 to 7. If you have low soil pH, you can use **dolomite lime** to raise it. Also, **humates** (leonardite) has the effect of widening the pH scale, making more micro-nutrients available to the tree. Humates also work well on soil lacking organic matter.

Some of the consequences of not paying attention to the nutritional needs of your apple trees are:

- ♦ **Bi-annual bearing** – the tree produces fruit every other year.
- ♦ **Poor quality** fruit.

I've found the old saying "the healthier the plant is, the less attractive it is to insects and disease" to be true.

One of the best books I've found on organic apple growing is *Growing Organically* by Paul Lanphere, available from IFM (Integrated Fertility Management), Wenatchee, WA, for \$8.95, Phone: 1-800-332-3157, Fax: 1-509-662-6594.

