

Calcium-25[®] Instructions For Use, and ... Hints!! (3/04)

Field Corn

Calcium-25 for Field Corn *must always* be diluted at the rate of **0.5 lb. to 200 U.S. gallons** with water *only* (no additives) just before use as a foliar spray. Apply the solution at a rate that will get a drop or two into the “whorl” of the plant when plants have *between 3 and 5 leaves*. Once the 7th leaf is visible, the plant has “already made up its mind” as to how many rows of kernels it’s going to produce. *Calcium-25* normally increases the number of rows of kernels by 2 to 4, sometimes more. Always spray at a temperature averaging 70 degrees F, regardless of the time of day. No additional soil fertilizers are needed to get the increases in yield with *Calcium-25*. **HINTS:** Spraying later in the day is *always* better than early in the morning! *Bandspraying* increases coverage from 10 acres to as much as 20-25 acres (see Corn Sheet for more information).

Soybeans, Sorghum, Alfalfa, Pasture, Small Grains, and Grasses

Calcium-25 for these crops *must always* be diluted at the rate of **4 lbs. to 400 U.S. gallons** with water *only* just before use. Application *must* be made at a temperature when the plant is growing at a rapid rate, usually 77 degrees or more. Temperature for **soybeans** is more important than stage, and the best early stage is when the plants have 3 to 5 trifoliates. See details for other crops. Apply at any rate that wets the leaves for about 10 minutes or so (for details on **grasses, pasture, sorghum (milo), small grains**, and other crops, see the Soybeans, etc. Sheet). If soybeans are being bandsprayed, coverage for 400 U.S. gallons can usually be about 20 acres, and medium to slightly coarse spray nozzles may be used. Finer nozzles must be used for small grains, grasses, pasture, and alfalfa. Also, **alfalfa, clover**, and **hay** crops can be treated *after each cutting* when 3 to 6” of new growth appears for additive increases in yield on the next cuttings.

Pasture can be sprayed during the spring, midseason, and again in fall to improve growth over the winter months. Most other crops require only a single treatment, such as soybeans and small grains. No additional soil fertilizer is needed to show an increase in yield using *Calcium-25*. Small grains should be treated early in the spring when rapid growth becomes apparent at an early stage (5 to 10” in height for most). This product can also be used on **tobacco**, as often as about once a month. **HINTS:** In all cases, to maximize the plants’ responses to the *Calcium-25* spray, applying late in the day – toward evening – is *much more effective* than spraying early in the morning, the coldest part of the day. If other foliar products are used, these should be used a day or so after using *Calcium-25* for an additive effect.

Wheat and Rice

Calcium-25 for Wheat and Rice *must always* be diluted at the rate of **4 lbs. to 250 U.S. gallons** with water *only* just before use. This should be applied to the leaves of crops as a fine spray at a rate to keep the leaves wet for about 10 minutes if possible. Better coverage is achieved at higher humidities, preferably late in the day or evening. The temperature at which wheat should be sprayed averages 64 degrees F in the U.S., with lower temperatures down to 55 degrees being all right in northern states, and higher ones being preferable for varieties grown in the south – up to the low 70's. Rice *must always* be sprayed at a higher temperature – over 85 degrees. Application is best made at *early tillering* in the spring, resulting in more tillers producing more heads of grain about the same size and equal or superior quality with no further nutrient requirement in the soil. Other foliars should only be applied a day or so *after Calcium-25*. See the *Wheat & Rice Sheet* for more information. **HINT:** Application before dormancy in the fall on wheat improves root growth over the winter. For other small grains, use the instructions in the section above. *This formulation may also be used on peas and lentils.*

Vegetables and Ornamentals

Calcium-25 for Vegetables and Ornamentals *must always* be diluted at the rate of **4 lbs. to 400 U.S. gallons** with water *only* (for peas use 4 lbs. per 250 gallons of water) just before use. This should be applied to all vegetables and ornamentals (also berries) *at the stages recommended in the enclosed Vegetable & Ornamentals Sheets*, and *always* at a temperature over 77 degrees F (for peas only, 55 to 65 degrees). **HINTS:** Multiple applications are *very* effective on some crops, such as tomatoes, peppers, ornamentals, grapes, and even tobacco. See enclosures for recommendations and stages of growth to spray. Make your **nursery stock** worth more – faster! This product (only) *can* be used on all other crops *except* field corn using the individual instructions for each crop.

Apples and Fruit Trees

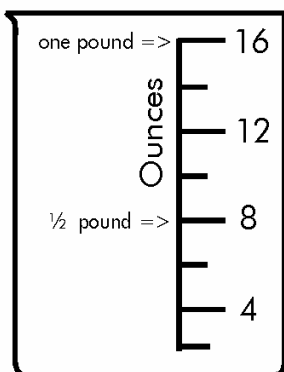
Calcium-25 for Apples and Fruit Trees *must always* be diluted at the rate of **4 lbs. to 400 U.S. gallons** with water *only*. Application rate is determined by tree size, since sufficient spray must be used to wet the outer leaves (newer growth) for 10 minutes or more. Larger trees require larger spray volumes, but the *dilution must still be the same*. While over-spraying is in no way harmful, the run-off provides no advantage. Usually the application rate for dwarf apple trees is about 40 gallons per acre, while the treatment for larger trees is up to 100 gallons per acre. For calcium-deficiency diseases, such as bitter pit, multiple applications on apples have shown to be up to 99.55% effective, and treatments a month apart at least three times per season are useful to increase fruit size and quality, promote faster growth of smaller trees, and increase storage life when used up to two weeks before harvest. **HINT:** Spray late in the day to use less spray due to higher humidity and have the advantage of higher temperature – 70's to 80's is best.

Any questions? Give us a call (afternoons and evenings are best):

1-800-673-8502

What if I have only a 200 gallon tank (or other size)? How do I measure **Calcium-25** from the container so I can use it in my sprayer? How can I mix it for use for the garden, greenhouse, golf courses, or landscaping??

Easy!! Just use the following ways to measure out **Calcium-25** to meet your needs!! Remember to keep the unused portion in the original container tightly closed for future use! Never mix anything with the **Calcium-25** solution!



Measuring cup... from the kitchen, shop, or a cup or pint container

You can use a measuring cup to measure the right amount of **Calcium-25** for your individual tank. A 16-oz. measuring cup (or one-pint container) holds 16 oz. of Calcium-25 by weight. If your crop calls for 4 lbs. per 400 gallons, and you have a 200 gallon tank, fill the cup to 16 oz. for each 100 gallons of water (only) - or 2x16 oz. amounts for 200 gallons (no additives).

For crops that call for 4 lbs./250 gallons, such as wheat, spelt, triticale, and peas, 16 oz. of **Calcium-25** makes 67.5 gallons when diluted (or two 16-oz. measures for 125 gallons, etc.).

For corn, a half-lb. container must be diluted to 200 gallons, and 100 gallons can be made up by measuring 4 oz. in the measuring cup. **All these are U.S. gallons! For Imperial gallons, you must multiply by 0.8** (100 U.S. gal. = 80 Imp.)



Garden sprayer

For spraying on lawns, landscaping plants, large gardens, etc. using a garden sprayer, use the right amount of **Calcium-25** and fill the sprayer to the right mark. You can use one oz. for 5 gals., 4 oz. for 20 gals., etc. Mix, hook up your hose, and the sprayer will do the diluting to the correct concentration for you! For hand sprayers, use one level teaspoon per gallon. Using a soil fertilizer the next day makes both work better!



Hand-held sprayer

Any questions? Call us before you spray!!

See other side!! 1-800-673-8502

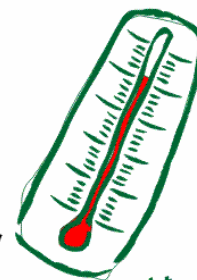
Calcium-25?? What is it, and what does it do??



The leaf surface contains many organic, waxy components involved in both plant protection and the growth process. Substances absorbed, through different mechanisms, by the leaf surface can be translocated throughout the plant. The components of these complex molecules vary in different plants. **Calcium-25** contains the natural waxes already in the leaf surfaces of a large variety of plants...and at the correct concentration for each.

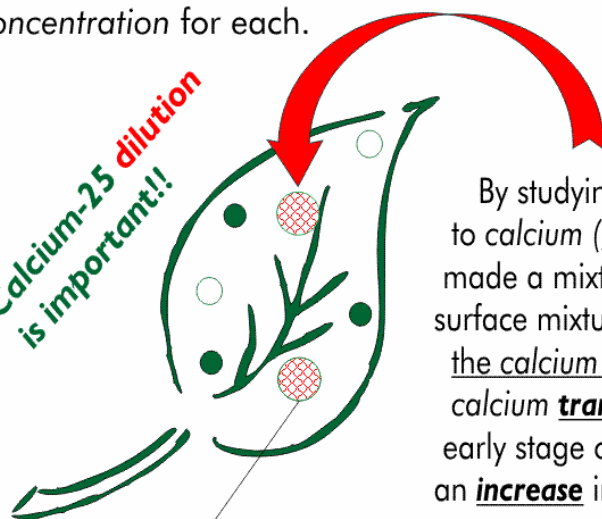
When plants are growing, the leaf surface is moving - expanding. At higher temperatures, the leaf surface is more and more "fluid".

This is an important factor in knowing how **Calcium-25** is absorbed and works, since the faster the waxy leaf surface is moving while the plant is growing, the faster **Calcium-25** will be absorbed.



Spraying at the right temperature is important!
(see notes below)

Calcium-25 dilution is important!!



These dots represent the *concentrations* of natural wax components on the leaf surfaces of plants. As the plant grows, and the surface is moving, these remain about the same.

By studying these compounds, and attaching them to calcium (**not** by chelating them), Bio-Gard has made a mixture that plants "see" as their own leaf surface mixture, and this is rapidly absorbed - but with the calcium attached. The result? **Rapid plant growth**, calcium **translocation**, and increased **cell division** at an early stage of development. This, in turn, carries over to an **increase** in your **crop yields, quality, and profits!!**

If **Calcium-25** is not diluted correctly, the plant won't recognize its natural ingredients - if too "strong" or too "weak" it won't "taste" good to the plant!

Ca²⁺



Note on temperatures: The temperatures here are generally those for the U.S. central Midwest. Northern climates can use Calcium-25 at somewhat lower temperatures, while more southern climates should consider somewhat higher ones for best results due to differences in varieties designed to grow well at different latitudes.