AGGRAND®

Natural Organic Products

Lawn • Garden • Agriculture

# BEANS

Annual leguminous crops such as soybeans and green beans respond to light preplant soil and foliar applications of fertilizer. Beans may not respond to additions of nitrogen (N), phosphorus (P) and potassium (K), especially under the right soil conditions. Beans are able to modify their own root environment to maximize nutrient uptake, especially when the soil pH is 6.0-6.5 and microbes are active in the soil. In addition to these facts, legumes respond to low soil N levels by increasing root nodulation. Symbiotic bacteria in the nodules fix N from the atmosphere so increased nodulation supplies the N necessary for plant growth and development. Make sure that the soil has been inoculated with the correct *Rhizobuim* bacteria to maximize nitrogen fixation. Under most soil conditions a preplant application of AGGRAND 4-3-3 Natural Fertilizer in combination with one or two foliar applications of either AGGRAND 4-3-3 OR AGGRAND 0-0-8 Natural Kelp and Sulfate of Potash are an adequate supplement. A banded application of AGGRAND 0-12-0 Natural Bonemeal and AGGRAND 4-3-3 may be beneficial on cold wet soils or soil that is low in N, P, or K.

**Foliar applications:**

1.) Apply 1-2 gals. /acre of AGGRAND 4-3-3 mixed with 30-75 gals. of water as a fine mist with enough solution to thoroughly cover leaves (increase spray volume as crop develops to ensure thorough coverage). If sufficient nitrogen is present (indicated by dark green leaves), then substitute 1-2 qts. of AGGRAND 0-0-8 mixed with 25-50 gals. of water. Apply first application when plants are 3-5" in height.

2.) Repeat application 2 to 3 weeks before first bloom when tiny hairs on the terminal leaves give plants a shiny appearance.

3.) On fresh market green beans a third application before the second flush of blooms stimulates the development of pods during late summer and early fall.

Rates vary according to soil fertility and other inputs used. Lower dilution rates are more effective than higher dilution rates. Two or three lighter applications can be more effective than one heavy application. If other constraints only allow one trip over the field, then do not exceed a 3% dilution rate (3 gals. of AGGRAND to 100 gals. of water).

The addition of a biodegradable surfactant increases uptake by increasing adhesion to the leaf surface. Apply AGGRAND in early morning or late evening. Do not apply before or after rainfall or irrigation. On standard field sprayers use turbo flood jet nozzles when applying AGGRAND to reduce clogging.

To reduce susceptibility to attack of insect and disease causing organisms apply 1 gal. of AGGRAND 4-3-3/acre when signs of infestation begin to become apparent. Substitute 2 qts. of AGGRAND 0-0-8 for the 4-3-3 late in the season when the additional nitrogen and phosphorus are not needed or when sufficient nitrogen is present. Some growers are finding that AGGRAND applications alone eliminate the need for pesticide applications when they are applied at the same times as pesticides.

AGGRAND added to the spray tank reduces the pesticide needed to obtain effective control by 1/3 to 1/2.

**Soil applications:**

Mix 3 gals. of AGGRAND 4-3-3 in 20-30 gals. of water. Apply solution to one acre (apply spring and fall if soil is hard and low in organic matter) otherwise one preplant application is sufficient.