



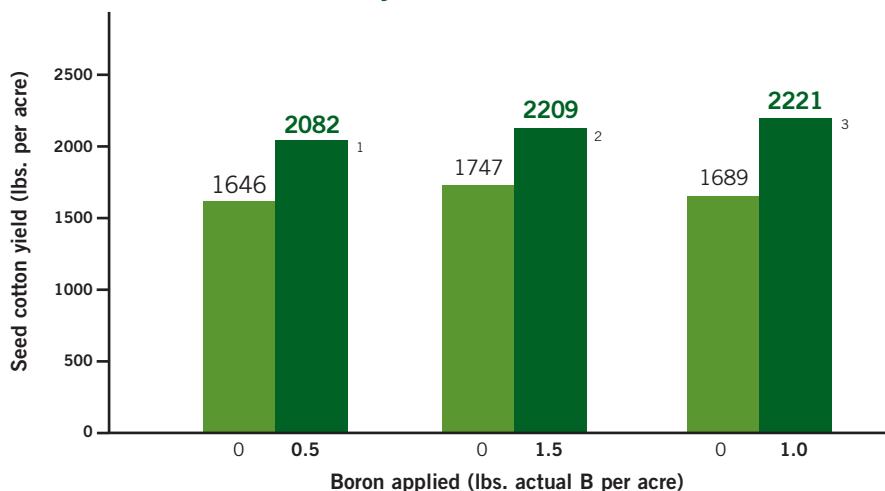
# B in cotton

Boron has been universally recognized as the most important micronutrient for cotton production. It is essential at all stages of plant growth, and critically so during fruit development – especially with today’s fast-fruiting, high-yielding varieties. University research shows that as little as 1 lb. of boron can increase seed cotton yield by more than 500 lbs. per acre.

Boron is an essential element that cotton needs during all stages of growth and fruiting. Supplying adequate boron will help cotton:

- Develop and retain more squares
- Increase bloom pollination and boll set
- Move nutrients and sugars from leaves to the fruit
- Produce strong, well-developed fibers
- Speed maturity

## Boron increases cotton yields



1. Howard, D.D. and Carl Sams. 1993. Unpublished data. Tennessee Agricultural Experiment Station.

2. Keogh, J.L., Richard Maples and G.W. Hardy. 1964. Methods of applying boron for cotton. Vol. XIII, No. 2 (March – April 1964) Arkansas Farm Research. Arkansas Agricultural Experiment Station.

3. Lancaster, J.D., B.C. Murphy, B.C. Hurt, Jr., B.L. Arnold, R.E. Coats, R.C. Albritton, and Louie Walton. 1962. Boron for cotton. Bull. 635. Mississippi Agricultural Experiment Station.

# Boron fertilization of cotton

## Soil applications:

- Preplant apply and incorporate 1 lb. of actual boron per acre on all sandy and silt loam soils. (When application after planting is preferred, up to 1 lb. of actual boron in 3 to 5 gallons of solution can be safely applied over the plants after true leaves appear.)
- Heavy clay soils usually do not require soil application.

## Foliar applications:

- Apply from 0.1 to 0.2 lbs. of actual boron per acre at weekly intervals. Begin at the eight leaf stage, or when cotton first begins to square. Make at least three, and up to six applications. (Unlike nitrogen, boron is not translocated from old to new plant tissue. Thus, when boron uptake declines, nitrogen and sugars can accumulate in the new leaves, which often results in fruit shed or imperfectly developed bolls.)
- During this critical fruiting stage, periods of heavy rainfall or irrigation and/or alternating drought can induce a boron deficiency. If these conditions are present, continue the foliar boron applications mentioned above up to an additional three weeks.

## Recently limed fields:

- Preplant apply and incorporate 2 lbs. of actual boron per acre for two consecutive years after lime is applied, or better yet:
- Apply 1 lb. per acre preplant and then make three weekly applications of 0.2 lbs. actual boron per acre during heavy fruiting for two consecutive years following lime application to supplement soil application.
- The total amount of boron applied over the growing season, by any combination of the above, should not exceed the total recommended for your area (typically between 1 to 2 lbs. actual B per acre) and should be based on soil tests and/or plant analyses and yield goals along with previous experience, and growing season conditions.

## How much boron is enough?

- Since boron is essential for the transfer and assimilation of sugars and nitrogen into complex carbohydrates (fiber) and protein, demand for this element is greatest during lint and seed development. It is also during this time that boron is actually least available, in non-irrigated soils, because of dry conditions.
- Cotton is especially vulnerable to boron deficiency during a drought that was preceded by heavy rainfall. And then again, after a drought is broken, when there is sudden flush of growth and fruiting – especially if nitrogen is plentiful.

## Your boron fertilizer options

- *Granubor*<sup>®</sup> 2 is an ideal material for dry blends that are applied broadcast preplant or sidedressed.
- *Fertibor*<sup>®</sup> works best in fertilizer suspensions for preplant broadcasts, sidedressing or band sprayed over the pre-emergent seed row.
- *Solubor*<sup>®</sup> allows you the most flexibility for applying boron. It can be dissolved alone in water, or in liquid fertilizers and/or pesticides and then applied to the soil or directly onto the foliage.\*

\*Foliar sprays should not exceed 0.5 lbs./acre boron per application.

## For more information

- Call US Borax at 1 (800) 699 9005
- Visit our website at [www.borax.com/agriculture](http://www.borax.com/agriculture)

**Fertibor**<sup>®</sup>

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