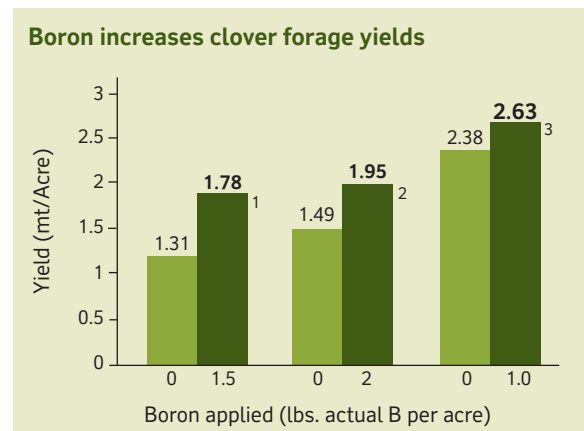


# Boron in clover and grass mixes

University research has shown that seeding clovers into grass stands not only increased forage yields, but more importantly, improved forage quality and animal gains. Boron is a crucial nutrient for clover seedling establishment, growth and persistence in the stand. Clover forage yields have been dramatically increased where boron was added to the fertilizer mix.

Mixed forages of clover/grass have a greater need for boron than do straight grass sods. Maintaining a higher level of boron fertility for the clovers will help:

- Establishment at initial planting or during natural reseeding
- Rapid root growth, especially the taproot
- Seedling survival, particularly under drought conditions
- Maximum seed production for persistence of stand
- Enhanced root nodulation for increased nitrogen fixation and protein production
- Maximum forage production and feed quality



## How much boron is enough?

Experience has shown that many clover/grass pasture mixes are grown on soils where boron fertility levels are adequate for the grass, but not the legume. Clovers are difficult to establish and maintain in these stands. Recent field research has shown that these problems can be overcome with 1 to 2 lbs. per acre applications of boron.

- Never apply boron in a fertilizer-seed-slurry mixture, or to the soil in a band that is in direct contact with the seed.
- Rates of boron fertilization should be based on soil tests and/or plant analyses, along with field histories, yield goals and application methods.
- The recommendation guidelines above are valid for all types of clover/grass sods, whether they are annuals, perennials, inter-seeded, co-seeded, pastures or harvested forages.

# Fertilization of clover/grass forages

Recommended lbs. actual boron per acre per year

|  | Soil texture  | Application methods  | Available Boron |        |      |
|--|---------------|--|-----------------|--------|------|
|  |               |  | Low             | Medium | High |
|  | Heavy (Clay)  | Broadcast prior to seeding and/or topdress after establishment | 2.0*            | 1.5    | 0.0  |
|  | Medium (Loam) |  | 1.5*            | 1.0    | 0.0  |
|  | Light (Sand)  |  | 1.0*            | 1.0    | 0.0  |

\*Increase the boron application rate by 0.5 lbs./acre if sod has been limed in the past two years, or if the soil pH is above 6.5.

## Your boron fertilizer options

- *Granubor*® 2 is an ideal material for dry blends applied broadcast preplant incorporated or topdressed.
- *Fertibor*® works best in fertilizer suspensions for preplant broadcast or topdressing.
- *Solubor*® 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.

Footnotes for chart on page 1:

1. Wear, J.I. 1957. Boron requirements of crops in Alabama. P. 16. Alabama Agricultural Experiment Station. Bull. 305.
2. Haby, V.A., R. Villavicencio, J.V. Davis, and A.T. Leonard. 1990. Rose clover response to lime and boron. pp. 46 – 50. Texas Agricultural Experiment Station. Tech Report No. 90 – 1.
3. Blaser, R.E. 1952. Boron for forage crops. Better Crops with Plant Food Magazine.

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