
EFFECT OF NITROGEN STRESS IN YIELD AND ITS COMPONENTS OF
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Nitrogen is one of the most important mineral elements since it is involved in many metabolic pathways which lead to morphology and yield. The effect of nitrogen stress depends upon its intensity, duration and the phenological stage of the plant.

The objective of this research was to determine the effect of nitrogen stress on yield and its components in a determinate, bush-type dry bean cv. Cacahuate.

The experiment was a completely-randomized design with 3 replications. The experimental unit was one 3-liter pot with two plants. The plants were grown in greenhouses, using Rahimi complete solution throughout the cycle for the controls.

For the treatments the complete solution was substituted by (-N) solution during 3.5 or 7 days beginning at one of three dates: (i) the beginning of flowering (ii) 10 days before flowering (iii) 20 days after flowering.

Forty days after the date of the beginning of the treatments, the plants were sampled, and data for each branch were taken for leaf area, dry weight, number of normal and empty pods, and number of normal and aborted seeds, separately. The abscised leaves, flowers and were collected periodically.

RESULTS. Depending upon the stage at which the treatment was given, the treatments with N stress, in comparison to the non-stressed control showed:

- 1) A 40 to 60% decrease in the total cumulative dry weight and 25 to 50% reduction in leaf area per plant.
- 2) A 25 to 50% decrease in the number of normal pods per plant and 30-60% decrease in the total dry weight of seed per plant.

On the other hand the number of aborted seeds per plant represented 18 to 46% of the number of normal seeds per plant in the treatments, and 12 to 23% in the controls.

The greatest effect over the yield components was for treatments at the beginning of flowering.

As expected the 7 day deficit always reduced yield and yield components more than that of 3.5 days.