An experiment to examine the effect of TIBA (2, 3, 5-triiodobenzoic acid) on red gram (*Cajanus cajan*) var. BS 1 was conducted during the *Kharif*, 1971 under field conditions. The plot size was 4 m × 10 m and 10 liters of TIBA formulation Regim 8 supplied by the International Mineral and Chemical Corporation was sprayed at the time of first flower opening. In all there were five concentrations including a control as given in Table I.

TABLE I

Effect of 2, 3, 5-TIBA on the red gram var. BS-1

TIBA *conc.* mg/l	Yield kg/plot	% increase
0 Control	7·1	..
25	7·1	..
50	8·1	14
100	8·6	21
200	8·0	13

In addition, the effect of TIBA on RuDP carboxylase in leaves was also studied following the method of Bjorkman (1968).

The seed yield was enhanced by TIBA application (Table I). Amongst the five concentrations 0, 25, 50, 100 and 200 μg/ml used, 100 μg/ml gave the maximum yield increase of 21% over control.

When the leaves of the treated plants were assayed for RuDP carboxylase four days after spray, there was gradual decrease in the enzyme activity with the increase of TIBA concentration (Table II).

TABLE II

Effect of 2, 3, 5-triiodobenzoic acid on RuDP carboxylase activity in red gram

TIBA conc.	RuDP carboxylase activity CPM g^{-1} × min^{-1} × 10^{-5}
0 Control	37·69
25	31·74
50	22·97
100	22·93
200	12·52

The reaction mixture contained in μ moles in total 0·5 ml: cysteine 1·25; EDTA 0·1, Tris HCl pH 8·1, $10_3 mgCl_2$ 2·5, RuDP 0·15 and $NaHCO_3$ 2·5 containing 0·5 μc ^{14}C.

EFFECT OF TIBA ON YIELD AND PHOTOSYNTHETIC ENZYME IN RED GRAM

THE yield of soybeans and Bengal gram was enhanced by foliar spray of 2, 3, 5-triiodobenzoic acid (Green and Anderson, 1965; Sinha and Ghildiyal, 1973). No such effect was observed in *Lense esculenta* (Muchlbaner and Miller, 1971).

Since this plant did not have any PEP carboxylase (Khanna *et al.*, 1971), it is unlikely that increase in yield was due to enhanced photosynthetic enzyme activity and consequently the photosynthesis rate. In soybeans the enhanced yield due to TIBA application is because of change in plant canopy structure which helps penetration of light to the lower leaves (Green and Anderson, 1965). This point needs verification in red gram. Alternatively, the application of TIBA might be responsible for better distribution of the dry matter produced by the plant before and after spray. The effect could also be on the nitrogen metabolism of plant which needs investigation.

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