

## *Research Note*

### *CULTIVATION OF CHICK PEAS (CICER ARIETINUM) IN PUERTO RICO<sup>1</sup>*

The chick pea (also called garbanzo, gram or Idaho pea) is a staple food on the Indian sub-continent, South Africa and Spain, where this grain legume is grown. Dutt<sup>2</sup> indicated that the entire consumption of chick peas in various forms is imported in this country. He provided a 500-g sample for trials in Puerto Rico. The objective of this experiment was to evaluate whether chick peas can be successfully cultivated in Puerto Rico.

Chick pea was planted during winter and summer of 1980-81 at the Fruits Substation, Juana Díaz, for evaluation of its performance in Puerto Rico. The experimental soil belongs to the San Antón series. The temperature at this station fluctuates from 19.4 to 29.4°C with an average temperature at 25°C. The mean annual rainfall is 762 mm. The chemical analysis of the soil indicated a pH of 7.9, conductivity of 0.40 mhos per cm, 39 p/m of P, 379 p/m of K, 409 p/m of Mg, and 2747 p/m of Ca. The winter experiment was planted December 4, 1980, and terminated March 13, 1981. The seeds were planted on both sides of a drip line 15 cm away from the line. The plants were spaced 5 cm apart down the row. No fertilizer, fungicide, or insecticide was applied during the growing period. Irrigation was applied at the time of planting, flowering, and pod formation. The summer experiment was planted March 25, 1981 and ended June 30, 1981.

Table 1 shows the observations for the winter and summer crops. No crop yield was obtained during summer because of empty pods, but 500 kg/ha was gathered during the winter; thus plant performance during the winter was better than during the summer.

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<sup>2</sup> Dutt, R. C., 1980. Private communication with Mr. Herbert Strum of Economic Dev. Ad. of Puerto Rico. Westcott Nut Products Co., New Jersey 07111.

TABLE 1.—*Chick pea performance during winter and summer, 1980–1981*

| Sr. No. | Description   | Winter crop                           | Summer crop                         |
|---------|---|---------------------------------------|-------------------------------------|
| 1       | Date of planting  | December 4, 1980                      | March 25, 1981                      |
| 2       | Plant spacing down the row                              | 5 cm                                  | 5 cm                                |
| 3       | Distance away from drip line                            | 15 cm                                 | 15 cm                               |
| 4       | No. seeds per hill                                      | 2                                     | 2                                   |
| 5       | Method of planting                                      | Hill                                  | Hill                                |
| 6       | Irrigation after planting                               | 2.5 cm                                | 2.5 cm                              |
| 7       | Plant performance at 30 days after planting             |                                       |                                     |
|         | a) Plant height   | 30 cm                                 | 24 cm                               |
|         | b) Plant canopy   | 36 cm                                 | 27 cm                               |
|         | c) Color of leaves                                      | Dark green                            | Yellow, green                       |
|         | d) Insect damage  | None                                  | 25%, leaves                         |
|         | e) General look   | Very good                             | Fair                                |
| 8       | Flower formation  | January 7, 1981                       | April 22, 1981                      |
| 9       | Color of flowers  | Pink, purplish                        | Pinkish, blue                       |
| 10      | Irrigation  | 1.25 cm<br>(January 13, 1981)         | 1.25 cm<br>(April 23, 1981)         |
| 11      | Pod formation   | January 13, 1981<br>(Pod size—3.2 mm) | April 23, 1981<br>(Pod size—2.5 mm) |
| 12      | Pods appear full (Green seeds)                          | January 20, 1981                      | No seed                             |
| 13      | Plant performance on 70th day                           |                                       |                                     |
|         | a) Color of leaves                                      | Green                                 | Yellow                              |
|         | b) Plant height   | 60 cm                                 | 40 cm                               |
|         | c) Plant canopy   | 40 cm                                 | 30 cm                               |
|         | d) Insect damage  | None                                  | 50–60%                              |
|         | e) Pod maturity   | Non uniform                           | Pods dried                          |
|         | f) Flower formation                                     | Still seen                            | None                                |
|         | g) New pods   | Seen                                  | Seen                                |
| 14      | Date of harvesting                                      | March 13, 1981                        | June 30, 1981                       |
| 15      | Crop performance at harvest                             |                                       |                                     |
|         | a) Color of leaves                                      | Brown                                 | Still some green leaves             |
|         | b) Branches   | Brown                                 | Brown                               |
|         | c) Brown pods   | 80%                                   | 100%                                |
|         | d) Greens pods  | 20%                                   | —                                   |
|         | e) Average No. of good seeds per 100 pods               | 250                                   | Empty pods                          |
| 16      | Seed yield, kg/ha                                       | 500.00                                | 0.0                                 |
| 17      | Seed quality compared to original seed supplied by Dutt | Fairly good                           | No seeds                            |