

having specific characteristics to cooperators for evaluation, use in breeding and, if promising, finishing for release.

- c. To identify differences in adaptation among lines regionally and internationally through multilocation testing, and to characterize environments in which chickpeas are grown.
- d. To promote international cooperation through personal visits and exchange of information

We offer the following nurseries and trials for 1979-80:

- a. International Chickpea Cooperative Trial: Desi - Short duration (ICCT-DS)
- b. International Chickpea Cooperative Trial: Desi - Long duration (ICCT-DL)

The entries included in these trials are superior cultivars and lines developed by national programs and ICRISAT scientists. Each of these trials includes 16 entries in four replications. The plot size is six rows, each 4 m long.

- c. International Chickpea Screening Nursery Desi - Short duration (ICSN-DS)
- d. International Chickpea Screening Nursery Desi - Long duration (ICSN-DL)

ICSN-DS has 60 and ICSN-DL has 80 test entries that are advanced breeding lines developed at ICRISAT. The nurseries are unreplicated, planted in an augmented design, with three checks in each at the beginning and end, and after every 10 entries. The plot size is two rows, each 4 m long.

- e. Early Generation Segregating Bulk Trials
- These include F₂ trial with 50 entries (46 populations and four checks) and F₃ trial with 16 entries (12 populations and four checks) in three replications each.

In addition to these tests, we supply on request any parental and/or segregating material to interested individuals or organizations for research work anywhere.

- Jagdish Kumar (ICRISAT).

International Yield Trials and Nurseries Coordinated by ICARDA

ICARDA started systematic international trials in 1977-78 with generally the same objectives as those listed for ICRISAT. From two types of nurseries sent to 21 cooperators in 13 countries the first year, the program has grown to five types of trials/nurseries sent to 51 cooperators in 28 countries. The present trials are:

	Trial/Nursery	Locations	Countries
CAT	Chickpea Adaptation Trial	40	21
CIYT	Chickpea International Yield Trial	43	21
CIYT-W	Chickpea International Yield Trial - Winter Planting	15	9
CISN	Chickpea International Screening Nursery	40	23
CIF4T	Chickpea International F ₄ Trial	25	13

- K.B. Singh (ICARDA).

Rapid Generation Turnover

To speed up the breeding program we are investigating conditions necessary for shortening generation time in chickpea. Work elsewhere has shown that chickpea is a quantitative longday plant, and that earlier flowering can be induced by increasing daylength.

With an early cultivar, CPS-1, planted at ICRISAT Center in mid-December, time to flowering was reduced by 10 days when daylength was increased to 24 hours by use of artificial lights. A further gain of 3 days was achieved with foliar nutrient (N+P) sprays. A second experiment was planted in mid-January with 18 cultivars that would take from 32 to 74 days to flower in a normal rabi season. All 18 cultivars, at 24-hour daylength, flowered in 32 to 34 days, and produced mature seed. Under normal daylength, (12 hours) only the early cultivars flowered and matured; midlate and late cultivars were killed by high temperatures before they could flower. The average germination of seeds harvested 62 days after planting from all the cultivars subjected to 24-hour days was 94.7 percent. Earlier harvests did not give satisfactory germination. There appeared to be no advantage of continuing 24-hour days beyond flowering.

Thus the life cycle of chickpeas can be substantially shortened by exposure to 24-hour days up to flowering. Further investigations on the optimum time for starting longer days and minimum number of inductive