Elite lines of chickpea produced in record time

Experiment by ICRISAT reduces production period from six years to one

How much time would it take to produce a new variety of seed with all the expertise put together? Believe it or not, an incredible 12 years!

It takes as long as six years to develop elite lines of seed in addition to two years of testing at the local level. Then it is sent for testing at the national level to the All India Coordinated Research Projects where the seed is tested for three years across the nation to check if it can withstand all weather conditions. Later, it is notified and a number assigned to it. Only then is the seed produced in large quantities. However, scientists at the International Crops Research Institute for Semi-Arid Tropics (ICRISAT) have successfully reduced the production period of the early generations from six years to just one.

Conditions in control
The experiment was successfully conducted by Srinivasan Samineni, senior scientist, Chickpea Breeding Research programme.

“Chickpea is a winter crop and can be grown between October and January. We have to wait for six years if we have to develop elite lines since we need five to six generations of gestation to produce the elite line. The usual four-month period of producing a line was reduced to 55 days by using greenhouse effect where semi-controlled conditions prevail. We have successfully produced six generations of chickpea here,” Mr. Srinivasan told The Hindu.

Replicating facilities

As the greenhouse facilities are commonly available with many research institutes, the scientist claimed that it can be replicated by any breeding centre with ease.

After successfully completing the production of six generations of chickpea within a year, Mr. Srinivasan has been piloting the technology to develop superior chickpea genotypes ready for national testing in three years.

“Reducing the varietal development time from 12 years to six is a big thing and will have lot of impact at the national level in developing elite lines in much reduced time. This technology will fit very well with the development of new breeding populations used in genetic research programme as well,” Pooran M. Gaur, research programme director, Asia, told The Hindu.