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CONTENTS

D.K. Samadia and T.A. More

New Indian beans for more protein-rich foods

Of the Indian bean genotypes evaluated and purified during 2001-2008 at CIAH, Bikaner, two landraces showing a wide variation for growth, flowering and fruiting behaviour, pod quality and yield-contributing traits have been selected. Both are high-yielding with better quality characters under arid conditions. They are known as AHDB 3 and AHDB 16.

The Indian bean is a nutritious vegetable. *In picture*. the crop of AHDB 03 *(left)* and pods bearing plants *(right)*

INDIAN BEAN (*Lablab purpureus*), popularly known as '*sem*', is important vegetable of the Indian origin. It is grown for tender pods, immature and dried seeds. It has ability to tolerate the extremes of temperatures and drought conditions. In arid and semi arid regions of India, its crop is still an under exploited. Perennial landraces, having low yield are generally available with tribal farmers. The landraces producing good quality pods are vine type and, therefore, require proper system for commercial cultivation. Indian bean has tremendous potential for diversified vegetable production under resource constraints arid agroclimate, but so far there is no improved variety for commercialization.

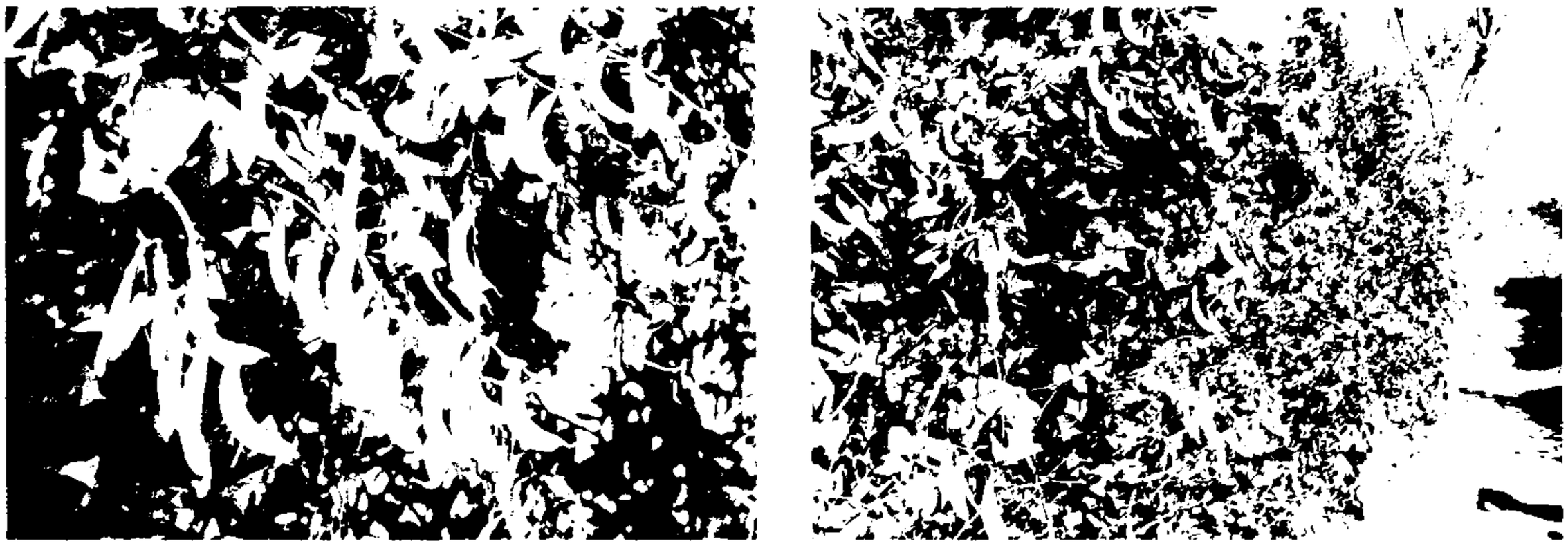
AHDB 3

It is a selection from landraces collected from tribal area of northern Gujarat. Developed through single plant selection for highest quality and early yield under arid agroclimate conditions of Rajasthan, its tender pods are 13.85 cm long and 1.05 cm wide. Average weight of a tender pod is 8.52 g. At marketable stages, weight of pod pulp and seed kernel are 7.03 and 1.51 g, respectively. Pods are soft and shining green in colour. Average pod yield is 1.768 kg/plant. Plants are medium in growth habit and about 3.0 m tall. Flowers are purple in colour.

AHDB 16

It is a selection from a population collected from tribal areas of south Rajasthan. It is developed through single plant selection for earliest harvest as early as in mid October and higher early yield under arid conditions.

Tender pods are 10.23 cm long and 1.58 cm wide. Average pod weight at tender stage is 5.63 g. The weight of pod pulp and seed kernel is 3.76 and 1.85 g, respectively. Medium sized pods are whitish green and sickle shaped. Pods are smooth, soft and shining. Average pod yield is 1.760 kg/plant. Plants are medium in growth habit and 2.75-3.25 m in height. Flowers are white in colour



The pods of AHDB 16 Indian bean ready *(left)* and its crop in field *(right)*

Their Cultivation

Both the developed varieties have viniy growth habit. They require support or trellis system for nmercial cultivation. The channels should be prepared for cultivation of beans under limited irrigation water either through food in channels or drip technology. Channels of 60-75 cm wide are prepared at 2.0-2.5 m apart, which are of about 25-30 m in length.

Channels should be fertilized with FYM (50 q), vermincompost (5 q,, DAP 100 kg., SSP (100 kg), urea (50 kg), MOP (50 kg) and 10 kg methyl parathion (2% dust, as a basal dose and mixed thoroughly. Channels should be kept ready so that sowing can be done in time with the onset of monsoon in July. About 8-10 kg seed is sufficient for a hectare crop. Seeds should be soaked in water for 5-6 hours prior to sowing and also treated with fungicide.

Two-three seeds are sown at 50 cm distances in channels or near to drippers of lateral lines under drip system. After germination, only one or two · ·ts are allowed on each sowing points. Iron poles (6-7 feet height) with wire net trellis or support system should be developed near to channels for the spread of vining plants. The crop should be irrigated at 7-10 days intervals by flood method only in channels or at 3-10 days intervals for 2-3 hours under drip technology (laterals 12-14 mm and emitters 4 lph capacity under sandy soils of arid agroclimate.

Two manual weeding and hoeing should be done after 25-30 and 40-45 days of sowing in channels and at this time also apply urea (50 kg/ha) in two split doses in standing crop. Weeds between the channels may be controlled by cultivating the area by power tiller or with spades manually. Spraying of Rogor, Malathion or Endosulfan @ 1.0-1.5 ml/litre of water) is recommended to control aphids and other minor insect pests at early plant growth and flowering stages.

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