

variety DL 74-1 was recommended by Pulse Workshop for cultivation in Central Region. This year Kharif workshop identified varieties 4-84 and 4-64 as promising and recommended them for testing in farmers' fields.

(d) The new varieties of arhar developed by IARI have shown yield potential of about 25 q/ha under moderate level of water and fertilizer application.

**New High Yielding and short duration seeds of Pulses, Soyabean**

1971. SHRI BHOGENDRA JHA: Will the Minister of AGRICULTURE be pleased to state:

(a) whether the IARI or other agricultural scientists of the country have developed new high yielding and short duration strains of pulses, beans including soyabeans and other protein containing eatables and seeds for edible oils;

(b) if so, details thereabout; and

(c) the steps being taken for mass production of the same?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND RURAL RECONSTRUCTION (SHRI R. V. SWAMINATHAN). (a) Yes, Sir.

(b) A number of high yielding and short duration varieties of pulses, soyabean and edible oilseeds have been developed. In pulses several short duration varieties like Pusa Baisakhi, PS-16 of Mung, T-9 and PS-1 of Urd, C-152 of Cowpea and Agati, Prabhat, UPAS-120, DL 74-J of Arhar, EC 33866 and Hans of peas JG-62 and Annigeri of Chickpea have been developed. The availability of such short duration varieties has made the cultivation of summer Mung Arhar-wheat rotation and intercropping of arhar with mung or cowpeas, possible. In soyabean varieties such as Bragg. Punjab-2, Clark-63 and Lee have

been observed to be suitable in different areas of the country. A number of improved varieties have been developed in other seeds for edible oils in groundnut mention may be made of TMV-10, M-13 and J-113. In Safflower a variety 116-4-2 with higher oil content has been developed. T-27 of Tarmira, Sangam of Toria and Prakash of Raya are also some of the improved varieties of edible oilseeds.

(c) The seeds of these improved and short duration varieties is being multiplied by I.C.A.R. Institutes, Agricultural Universities National Seed Corporation and State Seed Corporation under the National Seed Project. With a view to popularise the existing production technology with the farmers both in dryland and irrigated areas, recently (1979-80) a Project namely "Intensification of Research and Training in Pulses and Oilseeds" have been put into operation by the I.C.A.R. The efforts are being made to increase pulse and oilseed production by popularising the high yielding varieties along with appropriate production technology and by introducing pulses and oilseeds cultivation in intensive cropping systems.

**Training of Foreign Students at Anand Dairy**

1972 SHRI P. RAJAGOPAL NAIDU: Will the Minister of AGRICULTURE be pleased to state:

(a) whether the students from other countries are being trained at Anand Dairy Development; and

(b) whether other countries are approaching the N.D.D.B. seeking its advice on law to develop their dairy industry?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND RURAL RECONSTRUCTION (SHRI R. V. SWAMINATHAN): (a) Yes, Sir. National Dairy Develop-

ment Board does not conduct academic courses but organises training programmes which are meant to acquaint the participants with Dairy Development based on Anand pattern.

(b) Some countries have approached National Dairy Development Board seeking its advice to develop their dairy industry.

#### Buffer Stocks of Foodgrains and Sugar

1973. SHRI P. RAJAGOPAL NAIDU: Will the Minister of AGRICULTURE be pleased to state:

(a) whether the Government are intending to build up a buffer stock of foodgrains as a buffer stock; and

(b) whether the Government are intending to build up a buffer stock of sugar?

THE MINISTER OF AGRICULTURE AND RURAL RECONSTRUCTION AND IRRIGATION (SHRI BIRENDRA SINGH RAO): (a) Government are considering to raise the buffer stock from the present level of 12 million tonnes to 15 million tonnes. This will be over and above the operational stocks which will be ranging between 3.5 to 8 million tonnes on different dates of the year.

(b) The production of sugar has come down steadily since the year 1978-79. As against the total production of 64.62 lakh tonnes in 1977-78 and 58.44 lakh tonnes in 1978-79, production during the season 1979-80 has been only about 39 lakh tonnes. The present situation is, therefore, not opportune for considering the question of building buffer stock of sugar. The policy could, however, be reviewed at a future date when the circumstances are favourable for adopting the policy of buffer stocking.

#### Research on Quality and Production of Khandsari

1974. SHRI P. RAJAGOPAL NAIDU: Will the Minister of AGRICULTURE be pleased to state:

(a) whether any research is being carried on to improve the quality and production of khandsari; and

(b) if so, the results of latest research?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND RURAL RECONSTRUCTION (SHRI R. V. SWAMINATHAN): (a) Yes, Sir,

(b) Research is a continuous process and the results of researches carried out by the National Sugar Institute, Kanpur to improve the quality and production of Khandsari is given in the attached statement.

#### Statement

Results of latest researches carried out by the National Sugar Institute, Kanpur to improve the quality and production of Khandsari sugar:

- (i) Design of 3-roller steel crusher (non-hydraulic) to replace the old outmoded wooden crusher.
- (ii) Design of 6-roller hydraulically loaded crusher with 2 sets of Knives and cane carrier, which improved the crushing rate and the sugar extraction can be 80 to 82 per cent and the juice extraction 65 to 68 per cent.
- (iii) Introduction of centrifugal machine for purging rab (massecuits) in place of old traditional K'hanchi system, being adopted earlier for separation of sugar crystal from the mother liquor.