Development of pest-resistant varieties of soyabean

2260. SHRIMATI RENUKA CHOWDHURY: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether ICAR has developed certain pest-resistant and high-yielding varieties of soyabean which have shorter duration;

(b) if so, the details thereof along with the reasons for delay in making these varieties available to farmers; and

(c) the steps taken by Government to prevent large scale damage to soyabean crops due to bad weather and pests?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DR. SANJEEV KUMAR BALYAN): (a) Yes, Sir.

(b) ICAR has developed a number of high-yielding, pest and disease resistant/ tolerant varieties of soyabean having short duration (85-100 days) such as JS 95-60, JS 93-05, NRC 7, NRC 86, JS 20-34 and JS 20-29. Of these, JS 93-05, JS 95-60 and NRC 7, are very popular among the farmers, while the other three varieties (JS 20-34, JS 20-29 and NRC 86) have been released recently. Usually it takes three years for production of quality seed through a well-structured seed chain and making it available to the farmers.

ICAR is mandated to produce breeder seed of different soyabean varieties as per the indents from different soyabean producing States received by DAC&FW and has taken up breeder seed production of these newly released varieties during kharif 2015. The breeder seed will be made available to the stakeholders to take up quality seed production.

(c) ICAR has developed and demonstrated improved production technologies to prevent large scale damage to soyabean crop due to bad weather and pests. Further, weekly agro-advisories to various State and central agricultural development agencies, print and electronic media are issued regularly along with farm visits.

Setting up of primary processing centres

2261. DR. CHANDAN MITRA: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased state:

(a) whether ICAR plans to set up primary processing centres in the agricultural institutes across the country;

(b) if so, the details thereof, State-wise including Madhya Pradesh and West Bengal; and

(c) the fresh steps taken by Government to curb high scale post-harvest losses through adopting innovative techniques and information dissemination?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (DR. SANJEEV KUMAR BALYAN): (a) Indian Council of Agricultural Research (ICAR) mainly focuses on agricultural research and setting up of primary processing centres is not the mandate of the ICAR. However, as part of its research programmes conducted through ICAR-Central Institute of Post-Harvest Engineering and Technology (ICAR-CIPHET), Ludhiana and the centres of All India Coordinated Research Project (AICRP) on Post-Harvest Engineering and Technology located at various Agricultural Research Institutes and State Agricultural Universities, ICAR has provided technical assistance and training support to the farmers and entrepreneurs for the establishment of 135 small Agro-Processing Centres (APCs) in different States of the country.

(b) Details pertaining to the primary processing centres set up by farmers and entrepreneurs with the technical assistance from ICAR in different States of the country, including those in Madhya Pradesh and West Bengal, are given in Statement-I (*See* below).

(c) ICAR-CIPHET, Ludhiana undertakes research in the area of post-harvest technology for storage, value addition and processing of agricultural produce to contain post-harvest losses. These lists of the tools, equipment/machines, structures and technologies developed at ICAR-CIPHET, Ludhiana is given in Statement-II (*See* below).

ICAR-CIPHET, Ludhiana has also taken up a ICAR funded Consortia Research Platform (CRP) mode project on Secondary Agriculture. Under this CRP 04 Agro Processing Centers (APCs) are being established *i.e.* 01 APC at CIAE, Bhopal, Madhya Pradesh; 02 APCs in Punjab (PAU, Ludhiana and ICAR-CIPHET, Abohar); and 01 APC at AAU, Anand, Gujarat.

Further, ICAR-CIPHET conducts a number of entrepreneurship development programs and trainings for farmers/entrepreneurs related to post-harvest processing and value addition to agricultural commodities to reduce post-harvest losses.

Statement-I

Details showing primary processing centres set up with technical assistance from ICAR in different States of the country

Sl. No.	State	AICRP on PHET Centres	APCs established by farmers/entrepreneurs with technical support from ICAR (No.)
1	2	3	4
1.	Maharashtra	PDKV, Akola	10
2.	Uttarakhand	VPKAS, Almora	1
		GBPUA&T Pantnagar	2
3.	Karnataka	UAS, Bangalore	16
		UAS, Raichur	12
4.	Madhya Pradesh	JNKVV, Jabalpur	3
		ICAR-CIAE, Bhopal	1
5.	Andhra Pradesh	ANGRAU, Bapatla	1
6.	Odisha	OUAT, Bhubaneswar	10
7.	Tamil Nadu	TNAU, Coimbatore	4
8.	Haryana	CCS, HAU, Hisar	3
9.	Assam	AAU, Jorhat	5
10.	Gujarat	JAU, Junagadh	3
11.	Kerala	CPCRI, Kasargod	1
		KAU, Tavanur	3
12.	West Bengal	IIT, Kharagpur	1
13.	Punjab	PAU, Ludhiana	46
		ICAR-CIPHET, Ludhiana	01
		ICAR-CIPHET, Abohar	01

1	2	3	4
14.	Uttar Pradesh	ICAR-IISR, Lucknow	3
15.	Bihar	RAU, Pusa	1
16.	Chhattisgarh	IGKVV, Raipur	1
17.	Himachal Pradesh	YSPUH&F, Solan	2
18.	Kerala	KAU, Tavanur	2
19.	Rajasthan	MPUAT, Udaipur	4
20.	Srinagar	SKAUST&T, Srinagar	5
	TOTAL		135

Statement-II

Technologies of ICAR-CIPHET available for commercialisation post-harvest equipments/machines, tools and storage structures

1.	Automatic Custard Apple Pulper
2.	Automatic Litchi Peeler
3.	Automatic Blender-cum-Mixer
4.	Basket Centrifuge
5.	Ber Fruit Grader
6.	Castor Depodder and Decorticator
7.	CIPHET-Aonla Pricking Machine
8.	CIPHET- Banana-comb Cutter
9.	CIPHET-Cryogenic Spice Grinding System
10.	CIPHET-Tomato Grader
11.	CIPHET-Pomegranate Aril Extractor
12.	CIPHET-Fruit Collector-cum-Grader for saving of fruits

1	2
13.	Composite Mini Dal Mil for Pigeon Pea
14.	Fish Descaling Machine
15.	Fish Processing Table cum Retail Sales Unit
16.	Guar Seed Dehulling Machine and Process for Dehulling
17.	Groundnut Pod Decorticator
18.	Groundnut Pod grader
19.	Hand Tool for Easy Separation of Arils from Pomegranate
20.	Lotus Seed Decorticator
21.	Low Cost Fish Descaling Hand Tool
22.	Low Cost Tray Dryer having a unique design of Plenum Chamber
23.	Low Cost Poly House for higher benefit: cost ratio
24.	Mechanized System for Popping and Decortications of Makhana Seeds (Gorgon Nut, *Euryale ferox*)
25.	Mobile Iced Fish Storage and Transport Chamber
26.	Mobile Agro Processing Unit suggested for cleaning, grading, destoning of foodgrains
27.	Potato Peeler cum Washer
28.	Pilot Scale Millet Mill
29.	Poultry Processing Table for Poultry Butchers and Small Poultry Meat entrepreneurs and Poultry Slaughter Cone
30.	Small Capacity Maize Degermer for dry degerming of Maize
31.	Sunflower Dehuller
32.	Vendor's Vegetable Cabinet
33.	Rotary Maize Cob Sheller
34.	Evaporative Cooled Room (2 ton)
35.	Evaporative Cooled Structure (5-7 tons)

1	2
Processes/Products	
36.	Dried Onion Flakes and Powder
37.	Low cost technique for enhancement of shelf life of tomato
38.	Method of determining maturity of intact mango in tree
39.	Method of Predicting Maturity Stage and Eating Quality of Indian Mangoes using Near Infrared Spectroscopy
40.	Modified atmospheric packaging of different vegetables
41.	Minimal processing of vegetables
42.	Porous bricks
43.	Production of dried ginger flakes and powder and paste
44.	Process technology for Pomegranate Jelly and Grenadine
45.	Production of Carrot shreds and powder
46.	Process for production of beetroot powder
47.	Process of manufacturing mix for ready to constitute Makhana Kheer
48.	Processing of Pomegranate and by-product utilization
49.	Processing of ber for manufacturing of value added products
50.	Processing of Aonla for manufacturing of value added products
51.	A process of separating a compound containing allylisothiocynate from mustard seed (Bioinsecticide from mustard seed)
52.	A new process of oil extraction from Karanj seed (Pongmia glabra) through mechanical expression
53.	A low energy process of dehulling of mustard seeds
54.	Tomato puree manufacturing and bottling technology
55.	Shrink wrap packaging of fruits and vegetables
56.	Sunflower kernel based confectionary products
Value added Food products	
57.	Flax seed based Nutritious Energy bar

1	2
58.	Groundnut based Flavoured Beverage, Curd and Paneer
59.	Pearl millet based Extrudates, Pasta and Weaning mix
60.	Pearl millet based ready to reconstitute Upma and Halwa
61.	Green chilli puree and powder
62.	Anardana ready to mix Chutney
63.	Blended guava leather/bar
64.	Ready to reconstitute mustard (*Brassica juncea*) Saag
65.	Cattle feed from Potato Industry waste
66.	Value added products from meat
67.	Dried Beetroot supplemented extrudates
68.	Energy efficient Bengal gram *Sattu* making technology
69.	Aonla beverage
70.	Digestive product from Anardana (Anardana Hazmhazam)
71.	Sorghum-soy-blended biscuit
72.	Ber preserves

Promotion of micro-irrigation

2262. SHRI AAYANUR MANJUNATHA: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether Government has launched a scheme to promote micro-irrigation in the water stressed and quality affected areas across the country;

(b) if so, the details of the area of land covered under the micro-irrigation and whether micro-irrigation is widely used by farmers as a method of irrigation, if so, the details thereof; and

(c) the various steps taken by Government for promotion of micro-irrigation in the entire country along with the funds allocated and utilized under the scheme during the last three years, State/UT-wise?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS