

**Setting up of Integrated Agro-irradiation Centres**

3377. SHRI PARTAP SINGH BAJWA: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether it is a fact that India and Russia are collaborating to set up Integrated Agro-irradiation Centres in the country to reduce agricultural losses;

(b) whether it is also a fact that studies on animals fed with irradiated food items have shown increased tumors, reproductive failures and kidney damage;

(c) whether there is any official study showing irradiated food products do not cause health hazards to human beings; and

(d) whether irradiation of food products reduces the amount of essential nutrients in food?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI S. S. AHLUWALIA): (a) No, Sir.

(b) to (d) According to WHO technical Report Series 890, a Report of a Joint FAO/IAEA/WHO Study Group on high dose irradiation published in 1997, "irradiation of any food/commodity up to overall average dose of 10 kGy presents no toxicological hazard and introduces no special nutritional and microbial problems".

**Production of orange-spotted grouper fish seeds**

3378. SHRIMATI RENUKA CHOWDHURY: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether Central Marine Fisheries Research Institute (CMFRI) has succeeded in mass seed production of Orange-spotted grouper, if so, the details thereof; and

(b) the fresh steps taken by Government to make available the seeds of this fish species to sea-cage culture enterprises for mass production at the earliest in order to meet the high demand of this fish in overseas market?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI SUDARSHAN BHAGAT): (a) The Indian Council of Agricultural Research – Central Marine Fisheries Research Institute (ICAR-CMFRI) has standardized breeding and seed production technology of orange-spotted grouper. Broodstock fishes were maintained in indoor tanks with re-circulatory systems and also in circular cages installed in sea. Induced sex reversal was done to convert female fishes into male fishes. The male fishes were then matured in captivity. Female fishes were induced to spawn using Human Chorionic Gonadotropin (HCG). The hatched-out

larvae from fertilized eggs were reared in indoor tanks. Rotifers and Artemia were used as live feed in larval rearing which was subsequently replaced with artificial feed till the larvae reached the stockable size for farming. A survival rate of 12% from the larvae to advanced fry has been achieved by manipulating water quality and feeding protocols under controlled environmental conditions. Advanced fry were, then, transferred for nursery rearing in outdoor systems for attaining the stockable size for grow-out culture in cages and ponds.

(b) The technology developed by the ICAR-CMFRI for production of orange-spotted grouper fish seeds is ready to be taken up by developmental agencies such as National Fisheries Development Board (NFDB) of the Department of Animal Husbandry, Dairying and Fisheries (DADF), the Ministry of Agricultural and Farmers' Welfare; the Rajiv Gandhi Centre for Aquaculture (RGCA) of the Marine Product Export Development Authority (MPEDA), the Ministry of Commerce and Industry; the State fisheries departments and private entrepreneurs, for mass scale seed production of this fish species.

#### **Implementation of PMFBY**

3379. SHRIMATI RENUKA CHOWDHURY: Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) whether certain States have not implemented the Pradhan Mantri Fasal Bima Yojana (PMFBY), so far;

(b) if so, the details thereof along with the reasons given by each of such States for non-implementation of the Yojana; and

(c) the fresh steps taken by Government to implement the PMFBY all over the country for the benefit of farmers?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE (SHRI PARSHOTTAM RUPALA): (a) to (c) Pradhan Mantri Fasal Bima Yojana (PMFBY) launched from Kharif 2016 is voluntary for States/Union Territories (UTs). 21 States have opted for the scheme during Kharif 2016. While many other States/UTs also initiated the process for implementation of PMFBY, however they could not implement during Kharif 2016 for reasons including administrative issues, delay in finalization of bidding process, practical reasons like non-variability in yield, non-availability of scheme for perennial horticultural crops like apple, cardamom etc., non-availability of sufficient area for crops, insufficient infrastructure for conducting of Crop Cutting Experiments (CCEs) to assess the yield etc. Of these State Governments of Assam, Kerala and Jammu and Kashmir