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भारतीय कृषि अनुसंधान परिषद

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### Farmer as marketing guru

Mr Kailash Chowdhary, a progressive farmer from Kiratpura village of Rajasthan when started farming years back, his main concern was how to survive with only 20 acres of his ancestral land. Then he got a news that wheat is sold at double price in Jaipur what he was selling to a local commission agent. On visiting the shop, he found that it was the same wheat. Only difference, it was graded and packaged properly. He did the same and sold it at a better price. After that he started food processing plant from a small room in his village with an investment of just ₹ 1 lakh in 2004. While his sincere efforts kept him moving on the path of progress, technologies and technical know-how from the Central Institute of Post Harvest Engineering and Technology (CIPHET) strengthened him to develop international quality products through food processing.



At present, Mr Chowdhary is not only producing products like *amla juice*, *amla powder*, *aloe vera juice*, *candies*, *squashes*, *pickles*, *sweets* but also exporting to countries like USA, UK, UAE and Japan under brand name of KS Bio Foods.

His success not only confined to his own prosperity but he is committed to bring revolution in his entire district. He has formed a *Jaivic Krishi Utpad Mahila Sahkari Samiti* in Kiratpura for women empowerment. He has also formed a group of 1,500 farmers actively engaged in organic farming and food processing.

### Strategies for increasing production of oilseeds/vegetable oils

A brain storming discussion on 'Strategies for increasing production of oilseeds/ vegetable oils' was held at the Directorate of Oilseeds Research, Hyderabad, under

the guidance of Dr S Ayyappan, Secretary, Department of Agricultural Research and Education (DARE) and Director General, Indian Council of Agricultural Research (ICAR) and Dr M V Rao, former Special DG, ICAR & VC, ANGRAU. The meeting was attended by the Deputy Director Generals (Crop Sciences, Education, Agricultural Extension) of ICAR; Directors of ICAR Institutes concerned with oilseed crops including rice, maize, cotton, coconut and oilpalm; CIPHET, Ludhiana; CIAE, Bhopal; Project Coordinators of Sesame and Niger, Linseed and AICRP Dryland Project; and the representatives from rice bran industry, SEA, COOIT and seed industry.

In his introductory remarks, Dr S Ayyappan expressed his anguish and deep concern on continuous increase in import of vegetable oils in recent years and desired to prepare a time-bound action plan enlisting all the factors associated with oilseeds production in the country. Dr M V Rao in his remarks reminded the participants about how India became self-sufficient in oilseeds production in Technology Mission on Oilseeds period. Each of the participants during their presentation, highlighted the present status, major constraints and outlined the strategies for increasing the production of oilseeds/vegetable oils.



The 2-day long deliberations resulted in the identification of major constraints/issues on which the detailed time-bound action plan is required to be formulated to increase the production of oilseeds/vegetable oils.

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### National Dairy Research Institute achieves new heights

**Garima II**, the world's third cloned buffalo calf, through the new and advanced 'Hand-guided Cloning Technique' was born at National Dairy Research Institute (NDRI), Karnal. This cloned buffalo calf is different from the earlier clone calf because, in this case, the used donor cell was embryonic stem cell, informed Dr A K Srivastava, Director (NDRI), Karnal.



Garima II

Dr S Ayyappan, Secretary, DARE and Director General, ICAR congratulated the team and said that the new technology of Hand-guided Cloning of buffaloes may lead a new era in faster multiplication of elite germplasm to face the challenges of increasing demands of milk in view of the ever-growing human population. Dr K M L Pathak, Deputy Director General (Animal Sciences) and Dr C S Prasad, Assistant Director General (Animal Sciences), ICAR also congratulated the team.

The team of the jubilant scientists involved in the production of this cloned calf using embryonic stem-cell as donor cell are Dr M S Chauhan, Dr S K Singla, Dr R S Manik, Dr P Palta, Dr Shiv Parsad, and Dr Aman George of NDRI, Karnal. The scientists are of the opinion that the embryonic stem cells have better cloning ability as compared to somatic cells, as such the epigenetic reprogramming of these cells is much more efficient than

the somatic cells, which are already differentiated and lineage committed.

This cloned calf weighing 32 kg was born through caesarian operation carried out by a team of doctors comprising Dr R S Bisla from CCSHAU, Hisar and Dr K P S Tomar, Dr Subhash Chand, Dr Parveen Kumar and Dr M K Srivastava from NDRI, Karnal. The animal is apparently normal and healthy.

The NDRI has achieved yet another feat by successfully cloning a male buffalo calf named **Shresth**. Scientists of the Institute made this achievement during early hours on 26 August 2010 through the same new and advanced 'Hand-guided Cloning Technique'.

This cloned calf weighing 41 kg was born through normal delivery with slight assistance carried out by a team of doctors. This cloned buffalo calf is different from the earlier clone calves as, in this case, the foster mother was provided opportunity for normal delivery, the cloned calf was from ear somatic cell of 2-week old buffalo calf, and the



Shresth

embryo which led to successful pregnancy and normal delivery had remained frozen at  $-196^{\circ}\text{C}$  for one week in liquid nitrogen and brought back to active life upon thawing at room temperature. The earlier two calves were born through caesarean operation and were produced by using cells from foetus and embryonic stem cell, respectively.

Earlier, the NDRI has produced the world's first cloned buffalo calf on 6 February 2009, followed by second on 6 June 2009 and third on 22 August 2010.

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