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भाकृअनुप ICAR

ICAR NEWS

A SCIENCE AND TECHNOLOGY NEWSLETTER

RESEARCH UPDATE

PROMISING TECHNOLOGIES

Technology assessed in zeolite beads

Storing of seed by the farmers for subsequent use has been in practice in India and other countries for many centuries. Traditionally, farmers have devised many methods for seed storage which can maintain seed longevity fairly well till next sowing. The technologies involved in seed conservation and storage need to be continuously upgraded with the advent of new knowledge about seed physiology and invention of effective drying and cooling methods. Hermetic storage was found to be the most effective form of seed storage where seeds were stored in totally air-tight containers made of "terra-cotta", metal, wood etc. Gradually, knowledge of excluding insect and moisture from seeds was acquired and various methods of drying seeds and herbal concoctions to deter insect /fungi from deteriorating the seeds were practiced.

Specific requirements of a dry storage

Desiccants: Zeolite/alumina desiccants or Silica gel based. Preferably zeolite beads as they are non toxic, zero dust off and can be re-used millions times.

Hermetic storage: Whatever the seed storage containers use, they have to be hermetic/air-tight. For small quantities, PET bottles of 2-5kgs can be used. For bigger quantities, PVC drums with airtight lid and sealing rings to be used.

Recharging ovens and other equipments: Zeolite beads require recharging after they are saturated. Any oven that has the capacity to heat the beads to a temp of 200-250°C can be used. The beads

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Vanashree: Improved purebred native chicken

Native chickens are integral part of free-range or backyard systems of rearing in rural, tribal and hill areas of the country. However, the production potential of native chickens is considerably lesser resulting in lesser output from these systems of production. '*Vanashree'*, an improved purebred native chicken was evolved by selecting the PD-4 (Aseel) birds for higher growth and egg production for the last nine generations at ICAR-Directorate of Poultry Research, Hyderabad to address this issue. The performance of this chicken germplasm was tested at both Institute and farmers' field and impressive production performance was observed. Vanashree birds have attractive yellow coloured plumage, pea comb, yellow shank and red coloured combs, wattles and ear lobes with majestic look.

Vanashree birds in intensive system

Vanashree Male

Birds of *Vanashree* can reach market age at about 12-14 weeks of age under intensive system and around 18-20 weeks of age under backyard/free range systems of rearing depending upon the availability of feed resources in the field. Body weights recorded at 8 and 12 weeks of age were 570.6±0.21 and 1020±12.6g, respectively. Shank length at 8 and 12 weeks of age was 77.08±0.21 and 102.3±0.65mm, respectively. Body weight and shank length of male birds recorded at 20 and 40 weeks of age were 2166±15.4 and 3054±30.86g and 132.1±0.56 and 134.01±0.59mm, respectively while those of female birds at respective age were 1574±8.39g and 2072±14.83g and 106.8±0.24mm and 106.98±0.25mm, respectively.

Average age at sexual maturity observed was 159.7±0.97 days. Average survivors', hen housed and hen day egg production up to 40 weeks of age were 79.97±1.41, 78.64±1.52 and 79.46 eggs, respectively. Average egg weights recorded at 28 and 40 weeks of age were 43.44±0.23 and 48.93±0.29g, respectively. Vanashree birds produced 195±±2.61 eggs up to 72 weeks of age under intensive system in latest generation.

Liveability during 0-8 and 9-20 weeks of age was 95.35% and 98.05% respectively. Liveability of female and male birds during 21-40 weeks of age was 97.63% and 94.44% respectively. Farmers can use the fertile eggs of *Vanashree* birds to produce the subsequent generation on their own as it is a purebred line and unlike crossbred varieties there will not be reduction in the performance of birds.

There is higher demand from farmers for supply of chicks of this improved purebred native chicken.

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Kashi Krishna: Black carrot variety

Carrot is an important winter season salad vegetable grown and consumed throughout the world for fleshy roots having numerous categories – varying mainly in root colour (red, orange, black, yellow, purple, rainbow and cream), root shape (danvers, nantes and kuroda), flavor/taste and vernalization requirement (tropical and temperate). The presence of anthocyanins, the most versatile polyphenols and a class of pigments, is responsible for the purple and dark purple (almost black) colour of roots.