

Crop breeding and management of pepper, ginger, rice, scented rice and cool season vegetables; studies on crop weather relationships and soil fertility management are the main areas of research. A number of institutions including the Indian Council of Agricultural Research (ICAR), National Horticulture Mission (NHM), the State Horticulture Mission (SHM), the India Meteorological Department (IMD) and Government of Kerala provide funds for research and development activities.

The station maintains germplasm of black pepper, ginger, turmeric and rice. More than forty accessions in rice including scented varieties are maintained. Fifty-five accessions in black pepper are being maintained and evaluated. Twenty-seven accessions in ginger and thirty-six accessions in turmeric are maintained.

RARS is the lead centre for the multi-institutional National Agricultural Innovation Project "Multi-Enterprise Farming Models to Address the Agrarian Crisis of Wayanad District of Kerala" funded by ICAR. More than 7000 farmers in 9 panchayats are participants in this project.

Network project on Agrometeorological advisory service provides short-term forecasts on weather along with crop advisory based on the forecast. The information is provided to farmers through the mass media.

RARS Ambalavayal is a Co-opted Centre for the All India Coordinated Research Project on Spices. Research programmes on pepper, ginger, turmeric etc are taken up under this project. Multi Location trials (MLTs) with improved varieties of rice, ginger, turmeric and pepper are conducted at RARS to recommend suitable varieties for the region. A network project on "Characterisation and management of soil fertility with respect to secondary and micro nutrients" has been initiated to evolve recommendations for management of secondary and micronutrients. Another Network Project to develop system recommendations for nutrient, pest and disease management is also under way. Research programmes on precision farming in banana and vegetables are in the offing. Crop weather modelling studies have been initiated on the pepper. Studies on the impact of climate change on crop production in the high range region have also been initiated. Training programmes on fodder production, vegetable cultivation, Fruit and vegetable processing, IPM practices etc are organised for the benefit of farmers.

RARS serves as a major hub for the supply of seeds and planting materials of various crops. Rooted cuttings of black pepper, seed materials/seedlings of ginger, turmeric, clove, nutmeg, cinnamon, mangosteen; grafts/seedlings of mango and other fruit plants, seeds of different varieties of rice, scented rice varieties like *Jeerakasala* and *Gandhakasala*, seeds and seedlings of tropical/cool season vegetables, various ornamental plants including roses are being produced. Women Self-help Groups are engaged in the nursery production activities. About 5 lakh rooted pepper cuttings, 25-30 tonnes of rice seeds, 4-5 quintals of vegetable seeds, 2-3 tonnes of ginger and turmeric seed rhizomes and 2-2.5 lakhs seedlings/grafts of various tree spices/fruit plants are produced annually.

RARS took the lead role in obtaining Geographical Indicator Registration for the scented rice varieties *Wayanad Jeerakasala* and *Wayanad Gandhakasala* in favour of *Wayanad Sugandha Nellulpadhaka Sangham*. Steps are being taken to get similar recognition for Wayanad Pepper and turmeric in favour of Wayanad Organic Consortium.

RARS provides agro-advisory services to the farmers as well as extension personnel. Multi-disciplinary diagnostic team visits are conducted to address field problems.

The farm and nursery are visited by farmers, tourists, students and the public. The station has an excellent rapport with farmers, Local Self Government Institutions, Department of Agriculture and other agencies working in the field. The facilities are also being used for providing training. Krishi Vigyan Kendra (KVK) Wayanad also functions in the campus and conducts training programmes, frontline demonstrations, and participatory action research programmes. This farm is a notified centre in the tourism network of DTPC Wayanad and attracts tourists. RARS also has a name for its collection of roses.

Extension and other activities

Jack fest-2015, a two days programme was conducted at RARS, to educate the people about the importance of jackfruit in food security and scope of total value addition of the fruit. Seminars were conducted to aware the farmers on market potential, health benefits, diversification of value added products from jackfruit in the market. Nearly 101 value added products from jackfruit were prepared by the trained SHG (Haritha) of RARS and displayed in the fest. The programme also had on offer a feast which included 18 jack products as dishes. This programme helped to inspire the youth in starting new ventures in value addition and exporting of products from jackfruit.

The major crops of Wayanad are coffee, black pepper, paddy, summer vegetables, banana, jackfruit, mangosteen, avocado and tuber crops. The set of technologies available to boost the productivity of these crops is still at the outreach of farmers. Hence the potential yield possible from these crops had never been realised so far. Hence *in situ* production of inputs, their optimal use and technological interventions are envisaged.
