

WASTE TO WEALTH

Success Story/2024-8

TURNING WASTE INTO WEALTH USING A BIOMASS RECYCLING UNIT FOR SUSTAINABLE FARMING AND ENVIRONMENTAL AWARENESS

Authors: Shri Vinod Ananda Ubarhande, ACTO (F5)
Dr. Gopal Ramdas Mahajan, Sr. Scientist (Soil Science)
Shri Shashi Vishwakarma, STO (Soil Science)
Shri Rahul Kulkarni, ACTO (Agronomy)

PROBLEMS/CONSTRAINTS

A large quantity of biomass from field and plantation crops, particularly coconut and arecanut, accumulates in India's coastal regions. This biomass is difficult to decompose and needs special efforts. The hard leaves of these crops are especially challenging to recycle and compost, yet they hold great potential to be converted into valuable manure for improving soil health. If left unattended, this biomass can become a breeding ground for insect pests. Burning this biomass is not environmentally friendly and significantly reduces its nutritional quality and value. Additionally, with the government's focus on promoting organic and natural farming, there is a growing demand for organic inputs to meet the nutrient needs of crops and soils. This calls for a systematic approach to convert biodegradable waste into value-added products like vermicompost, with careful optimization of the production process. Additionally, capacity building through training and demonstrations for farmers and stakeholders is crucial to scale up and promote this technology effectively.

INTERVENTIONS

With the establishment of a biomass recycling unit, an important activity started utilizing the maximum possible biomass being produced by experimental farms and units of ICAR-CCARI. All types of biomass, like crop residues, pruned branches, and leaves, are being collected and used for vermicomposting. To have more efficient and speedy composting of hard biomass like coconut fronds, coconut shells, thick branches of trees, etc., the Institute has used a biomass shredder machine to reduce the surface area for faster composting. The vermicomposting facility became a training and demonstration site for all the trainees, farmers and students who visit the Institute. A Vermicompost sieving machine is also purchased for efficient sieving of vermicompost for further use in research farms and for sale as well.

IMPACT

Annually, around ten (10) tonnes of biomass is recycled and around 6 tonnes of vermicompost is produced. The vermicompost is used for experimental plots and also distributed to the beneficiary farmers under various flagship programmes of the Gol like STC and SCSP. This unit is efficiently contributing to nutrient recycling and reducing carbon footprints to the extent possible by creating an essential awareness among the farmers and students. More than 1000 students, farmers, citizens and stakeholders have been made aware of the biomass recycling and showcasing the facilities developed.



Glimpses of the biomass recycling unit and the awareness programmes