AGRI-BIOMASS AS ALTERNATE FUEL FOR TOBACCO CURING

AINPT centre **:**Shivamogga

Tobacco type : FCV

Problem Situation

FCV tobacco is mainly grown in Karnataka and Andhra Pradesh wherein wood is the major source of fuel for curing of green leaf and to produce 240 plus million kg of cured tobacco, an estimated 1.0 million kg of wood is to used anunually. Due to the increase in scarcity of fuel wood and in view of environmental degradation, there is an imperative need for searching an alternative source of energy for curing FCV tobacco.

Technology Description

Experiments were conducted during 2007-13 in a simplex barn (13'x13'x13') at AINPT centre Shimoga with hopper type of furnace designed to burn the agri bio-wastes. A top slot was provided using cast iron pieces and enough slope was provided so that the bio-wastes put into the furnace slowly descend towards firing range. Locally available bio-wastes such as coffee husk, areca nut husk and maize rinds were used as fuel sources in different combinations. Among the bio-wastes, coffee husk had the maximum calorific value (3400 to 4200 k. cal/kg) and hence heat provided by it was high. In Integration of three kinds of bio-wastes 1.1+2.3+5.1 kg of coffee husk + areca husk + maize rinds were used per kg was superior to other bio resources and their combinations.

	
Traditional furnace	**Hopper type furnace**

Different sources of fuel consumption and calorie value for curing FCV tobacco

Fuel Source	Fuel consumption (kg /kg cured leaf)	Calorie used per kg cured leaf (k cal)
Wood	7.2	21600
Coffee husk	6.2	23560
Coffee husk + Maize rinds	3.0 + 6.2	26900
Coffee husk + Areca husk+Maize rinds	1.1 + 2.3 + 5.1	24290
Coffee husk + Areca husk +Maize rinds	0.23 + 4.2 + 6.3	22064
Areca husk + Maize rinds	4.39 + 6.29	29773

Recommendation

Farmers in Karnataka are recommended to use the local bio-wastes such as coffee husk, arecanut husk and maize rinds as an alternative source of fuel for curing of tobacco leaves which are an effective substitute for fuel wood.