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Climatological Approach for Crop Planning

Rajendra Madhav Wagh*

ABSTRACT: Crops and varieties selected should match the length of growing season during which they are not subjected to soil moisture stress. Climatological analysis helps to identify cultivars suitable for different regions. Feasibility for intercropping, sequence cropping and double cropping can also be known from such analysis. For regions with cropping season less than 20 weeks, single crop during kharif or rabi is recommended. Regions with more than 30 weeks and above have no problem for double cropping. In regions with 20–30 weeks cropping season, double cropping may be risky. Such areas are ideal for intercropping.

Water balance for different agroclimatic regions has been calculated and water availability periods worked out. Regions with 350–600 mm rainfall having 20 weeks effective growing season are suitable for single cropping in kharif (red and shallow black soils) or rabi (deep black soils). Intercropping is possible in regions receiving 600–750 mm rainfall and having 20–30 weeks of effective growing season. Areas with more than 750 mm rainfall or with more than 30 weeks are suitable for double cropping.

Key words: Climatological Approach, Crop Planning

INTRODUCTION

Agriculture production in India is closely related with rainfall India. About 75% of total cropped area is rained. Crop product on area is very uncertain due to erratic behavior of rainfall. The rain for very low and highly unstable yields in these areas is unavailability adequate soil moisture occurring active growth period of crops. The moisture stress can be mitigated if it is followed by good rainfall. How prolonged stress period affects the rinal crop production. There are reasons for low productivity but primary constraint to this is lacs suitable tautology for soil and water management.

A sustainable farming system needs management strategies with respect varietals selection soil fertility programs and pest management agricultures order to reduce the input cost and provide a sustained avel of production profit from farming.

For planning an efficient agricultural production system information weather and climate is vital and also a major resource for agriculture productivity and sustainability especially in a stressed environment considering the complete macroclimate system. It is necessary to develop farming systems that are

sensitive to climate and weather sustainable and to susceptible to degradation on account of climate.

In some areas the total rainfall is sufficient for one good crop and the some cases for two good crops in a year. However the rainfall distribution in root profiles some times exceeds and percolation of water to deeper layer or ground water recharge takes place. Because of the uncertainties and ever present risk of droughts the farmers are generally reluctant to adopt the use of available high yielding varieties, fertilizers and other input management which will effectively conserve and utilize soil and water.

Weather plays an important role in crop production, more so in India where 75% of the cultivated area is rained. The effective cropping season in rainy season is restricted by both rainfall quantity and distribution, thereby setting limits on choice of crops, cultivars and cropping systems. For post rainy season crops grown on conserved soil moisture, it is moisture storage at sowing time that determines the choice of crops and cultivars.

Crop growth rate at different phases, length of growing season, efficiency of PAR interception, efficiency of solar energy conversion, efficiency in biomass conversion are explained to quantity the

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