

Research Paper

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Effect of sowing and weed management practices on nutrient uptake by crops and weeds on prosomillet

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ABSTRACT : A field experiment was conducted during *Kharif* season of 2008-2009 at Agronomy Farm, College of Agriculture, Dapoli, (M.S.) to study the performance of prosomillet Vari No.10 with different methods of sowing and different weed management practices. Results revealed that transplanting produced lower weed dry weights, total dry weight (monocot and dicot) of weeds $q\ ha^{-1}$, the dry matter plant⁻¹ of the prosomillet was influenced significantly due to the methods of sowing (38.18 g/plant) over the dibbling (36.16 g/plant) and drilling (34.21 g/plant). In respect weed treatments weed free check produced significantly lower weed dry weight compared to other treatments. While, total nutrient uptake by crop was significantly highest in transplanting followed by the dibbling and drilling.

Key Words : Dry weight of weed, Nutrient uptake by crop and weeds, Growth, Yield

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In recent years, there has been an increasing recognition of the importance of millets in India, since the major cereals which are grown on good soils supplied with large quantity of fertilizers, irrigation and pesticide inputs and superior nutritive value attained yield plateau. The millets are the crops that have potentiality of contributing to increased food production, both in developing and developed countries. Now a day's weeds are the major problem which will deplete the nutrients in the soil and compete with crops resulting in drastic decline in the yield level. So, use of herbicides to control the weeds will gain more scope in order to increase the yield of the crop.

Prosomillet is mainly grown by drilling, dibbling, and transplanting methods. The type of method used gives different yield levels and use of these methods is based on availability of the suitable conditions. In Konkan region, prosomillet is cultivated by transplanting method. Among the various agronomic practices, method of sowing plays very important role in establishment of the crop and further growth, development and yield.

RESEARCH PROCEDURE

The field experiment was planted in the terraced land of

the Agronomy Farm, College of Agriculture, Dapoli, and Dist. Ratnagiri during the *Kharif* season, 2008. The experiment was laid out in Split Plot Design. The Main plot treatments comprised three methods of sowing and the subplot of treatments consisted of five weed management practices. Totally, there were 15 treatment combinations replicated three times. Main plot treatments-methods of sowing- drilling, dibbling and transplanting and sub plot treatments -weed management practices- unweeded control, two hand weedings (15-20) and 45-50 days after sowing (DAS), oxadiargyl (Pre emergence) 80 g *a.i.* per hectare, Oxadiargyl (Pre emergence) + one hand weeding 45-50 DAS) and weed free check. The soil of experimental plot was sandy clay in texture and slightly acidic in reaction with Soil pH (5.6) having high organic matter and high in available nitrogen, medium in available phosphorus and available potassium. The variety Vari No.10 of prosomillet was used in the present investigation. Seed rate used for drilling was 8 kg per hectare, for dibbling 5 kg per hectare and for Transplanting it was 3.0 kg per hectare sown with a spacing of 20 cm x 15 cm. Fertilizer application was done as per the recommended dose of the crop. Fertilizers were applied at the rate 80 kg N and 40 kg P₂O₅ per ha. Full dose of phosphorus and half dose of nitrogen were applied at the time of sowing.