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Souvenir and Abstracts



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157. PERFORMANCE OF TISSUE CULTURED AND SETT PLANTED SUGARCANE ON YIELD

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A field experiment was conducted at farms, Dept. of Agronomy, MAU Parbhani on pre-seasonal planted sugarcane variety Co. 86032 with different planting materials i.e. one eye budded setts, two eye budded setts, three eye budded setts and tissue culture plantlets. It was found that among planting materials tissue culture plantlets recorded significantly higher cane yield (155.16 tha) than rest of the planting materials. The higher yield of tissue culture planted sugarcane may be attributed to its higher yield contributing characters like cane height, single cane weight and number of millable cane/ha which were significantly superior over other planting materials used in experiment. But there was no significant difference in sucrose per cent in juice, POL per cent in cane, Brix reading in tissue culture planted and sett planted sugarcane.

158. COMPARATIVE STUDY OF SETT PLANTED AND TISSUE CULTURED PLANTED SUGARCANE VAR. CO. 86032

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Experiment was carried out at farms, Dept. of Agronomy, M.A.U. Parbhani on sugarcane variety Co. 86032 with a view to find out the suitable planting material for the pre seasonal sugarcane. Four different planting material was used viz, one eye budded, two eye budded, three eye budded and tissue culture plantlets. It was found that absolute growth rate and relative growth rate of tissue cultured planted sugarcane was higher, than sugarcane planted by conventional planting material, which also reflected in its growth parameter like height, number of leaves, stem girth and inter node length etc. tissue culture plantlets also recorded higher photosynthetic efficiency which reflected in higher dry matter accumulation than other planting material.

159. ROLE OF FUNGI IN BIO-DETERIORATION OF OILS SEEDS

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A detail study on the investigation of mycoflora associated with three oilseeds viz. Groundnut Karad 4-11 M-13 and SB-XI, Soybean MAUS 1, MAUS 2, MAUS 32 and Sesame N-85, Phule 1, Punjab 1 was undertaken. These selected oilseeds revealed in presence of a number of genera of fungi. Standard blotter as well as agar plate methods were used for isolation of seed mycoflora. Three varieties of these three selected oilseeds were used in the study.

The change in dry weight of seeds, water soluble reducing sugar, ash content and oil content of the seed of all the varieties were also assessed. The dominant fungi from respective seed were inoculated to fresh as well as autoclaved seeds. It was found that in all the cases there was reduction in dry weight as well as in ash content of the inoculated seeds. In all the cases inoculated fungi induced reduction in water soluble reducing sugar with exception *Fusarium oxysporum* and *Aspergillus flavus*. Reduction in oil content was recorded in all the cases of the inoculation with slight variation.

160. PERFORMANCE OF BT AND NON-BT COTTON HYBRIDS

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Agronomic investigations were carried out on Bt and Non-Bt Cotton hybrids. It was revealed that Bt cotton hybrids were compact with optimum number of functional leaves and were more efficient in converting photosynthate to economic produce viz. the cotton Bolls. Non-Bt hybrids and check hybrids showed excessive vegetation and crowded leaf canopy with higher incidence of shoot borer (*Earias spp.*) and boll worm damage. Bt Cotton hybrids showed higher retention of first formed boll due to low fruiting point and boll damage. Hence, the Bt. cotton hybrids exhibited more balanced plant growth. Increased in Bt. cotton hybrids seed cotton yield over non Bt. counter parts and check hybrids was in the range of 15 to 61 per cent. Among the all Bt. cotton hybrid MECH- 184 Bt was given highest yield.

161. RESPONSE OF BT. COTTON HYBRIDS TO DIFFERENT SPACING AND FERTILIZER LEVELS

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The growth and yield attributes revealed that Bt. cotton genotypes were in general shorter in structure with lesser leaf area index and less dry matter production per plant at 90 days after sowing. The spacing requirements vary depending on soil type, hybrid to be grown, prevailing weather situation and irrigation facilities. It was observed that geometrical arrangement of Bt. cotton plants at 75 cm X 60 cm spacing registered significantly highest seed cotton yield than wider spacing of 90 X 45 cm and 90 X 60 cm spacing. It was further observed that application of 100% recommended dose of fertilizer recorded on par yield with application of 125 % RDF.

162. COMPARATIVE STUDY OF TISSUE CULTURED AND RHIZOME PLANTED BANANA

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An experiment was conducted on farmers field with four different varieties of banana viz., Basrai, Shreemanti, Grand Nain and Ardhapuri planted during monsoon season with planting material of tissue cultured plantlets and rhizome. Result revealed that tissue culture planted banana out perform the rhizome planted banana among all the varieties in respect of height, number of leaves, leaf area, girth of pseudo stem, number of finger per bunch and weight of bunch per plant. Similarly among all the tissue culture planted varieties Grand Nain and Basrai out perform shreemanti and ardhapuri. It was further observed that all the tissue cultured planted banana varieties grow vigorously and matured early and simultaneously than rhizome planted banana.

163. FUNGAL PROTEASES IN PULSES SEED DETERIORATION

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Pulses like Tur, Gram and Mung carry number of fungi as seed mycoflora both in field as well as during the storage. The seed mycoflora associated naturally with these pulses were found to be