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EFFECT OF CCC (2-CHLOROETHYL TRIMETHYL AMMONIUM CHLORIDE)
ON GROWTH AND YIELD OF SWEET POTATO VARIETY, H. 42.

Among the growth retardants, CCC (Cycocel) has been reported to be effective in suppressing vegetative growth and increasing the yield of tubers in several crops (Simmonds, 1965; Humphries and Dyscn, 1967; Gunasena and Hans 1969). No work has been done with this plant-growth regulator in sweet potato and hence the effect of different concentrations of CCC on growth and yield of sweet potato was studied in the red loam soils of College of Agriculture Veliayani during 1974—75. The variety used was H-42. The net plot size was 3.6 metres x 3.5 metres. Four concentrations of CCC (0, 50, 100 and 150 ppm) were applied as foliar spray. The first spraying was given 30 days after planting and the three sprayings at 15 days interval. Water was sprayed in the control plots. Ten tonnes of cattle manure, 50 kg P₂O and 75 kg K₂O per hectare were applied at the time of planting. Nitrogen was given in three doses of 50, 75 and 100 kg/ha half as basal and half one month after planting. Cultural operations and irrigation were done as per the package of practices.

The summary of the results of various growth characters is presented in Table 1. There was significant reduction in vine length due to application of CCC at 100 and 150 ppm over control. However, the differences between the 50, 100 and 150 ppm levels were not appreciable. Branching was not influenced by the hormone treatment at any level. The weight of green vines per plant at harvest, was decreasing significant by with increasing levels of CCC. The lowest weight was recorded in the 150 ppm level. There was significant increase in yield with increasing levels of CCC. CCC at 150 ppm recorded the maximum yield of 103.07 quintals of tubers per hectare whereas the control plots gave the minimum of 85.79 quintals. The length of individual tuber was not influenced by the treatments. There was decrease in the girth of tuber. The number of tubers per plant was significantly increased by the treatments. The effects of CCC in suppressing vegetative growth might have resulted in better utilization of nitrogen for the synthesis of carbohydrates and its effective translocation to the tubers resulting in more number of tubers per plant. The yield of vine was found to decrease with increasing levels of CCC.

സംഗ്രഹം

മധുരക്കിഴങ്ങ് വള്ളിയിൽ സി. സി. സി. (സൈക്കോസിൽ) എന്ന ഹോർമോൺ തളിക്കുമ്പോഴുണ്ടാകുന്ന പ്രതികരണം എന്താണെന്നറിയുന്നതിനായി 1974-75 ൽ വെള്ളായണി കാർഷിക കോളേജിൽ ഒരു പരീക്ഷണം നടത്തുകയുണ്ടായി. 0, 50, 100, 150 പി. പി. എം.

Table 1
Mean values of growth characters and yield of
sweet potato as influenced by CCC.

CCC	Mean length of vine cm	Mean length of branches	Weight of vine (wet)/ plant in kg.	Yield of tubers kg/ha	Mean length of tuber cm	Mean girth of tuber cm	Mean no. of tubers per plant	Yield of vine kg/ha
Control	93.95	6.10	0.210	8579	10.501	12.541	1.70	13571
50 ppm	91.27	5.9	0.164	8976	9.621	11.315	1.89	10786
100 ppm	87.90	5.82	0.152	9452	9.076	10.443	2.00	10341
150 ppm	86.64	5.63	0.135	10397	9.350	10.373	2.13	8817
'F' test	Sig.	NS	Sig.	Sig.	NS	Sig.	Sip.	Sig.
SEm +	1.76	0.38	0.0035	264.52	0.42	0.36	0.06S	173.33
CD (0.05)	5.15		0.0103	774.36		1.76	0.199	507.61

എന്ന വീര്യത്തിലായിരുന്നു ലായനി തളിച്ചത്. ഈ പരീക്ഷണത്തിൽ, സൈക്കോസിൽ ചേർത്തപ്പോൾ മധുരക്കിഴങ്ങ് വളളിയുടെ നീളവും ഭൂക്കവും കറയുന്നതായും കിഴങ്ങുകളുടെ നീളത്തിൽ പരയത്തക്ക വ്യത്യാസമൊന്നും ഉണ്ടാകാത്തതായും കണ്ടു. എന്നാൽ ഈ ഹോർമോൺ തളിക്കുന്നതുകൊണ്ട് ഓരോ ചെടിയിലുമുണ്ടാകുന്ന കിഴങ്ങുകളുടെ എണ്ണവും ഭൂക്കവും മൊത്തത്തിൽ വർദ്ധിക്കുന്നതായി അനുഭവപ്പെട്ടു.

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College of Agriculture
 Vellayani, Kerala

I. P. s. NAMBIAR
 N. SADANANDAN
 U. MOHAMED KUNJU