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EFFECT OF CARBIDE ASH AS A LIMING MATERIAL ON THE YIELD OF NUTS IN COCONUT PALM

Liming to reduce soil acidity is a routine practice in agriculture and a variety of materials are being commonly used for this purpose. With the object of studying the relative efficacy of carbide ash, a by-product of electrochemical industry, as a liming material for coconuts grown under the reclaimed *kari* soils (pH 5.2) of the backwater regions of Kerala, an experiment was conducted at the Coconut Research Station, Kumarakom for the period from 1968 to 1972. The results obtained are presented here. The carbide ash used in the trial obtained from the Travancore Electrochemical Industries Ltd., Chingavanam, Kerala, contained Ca (OH)₂ 58.0 — 64.5%, SiO₂ 11.0 — 17.5%, Fe₂O₃ + Al₂O₃ 1.4—3.4% and unreacted carbon matter 5.1—10.0%. The experiment with carbide ash was laid out in a Randomised Block Design with five treatments replicated 8 times each containing single West Coast Tall palm of the age group 35—40 years. All the treatments (vide Table 1) were given a uniform dose of N P K @ 250:350:500 gm/palm/year. Dolomite and carbide ash were applied in two equal split doses during May—June and September—October in circular basins of 1.85 m radius and incorporated to the soil a week after fertilizer application. Statistical analysis of the data for individual years did not show significant difference in yield of nuts due to the treatments. However pooled analysis of the data indicated significant

Table 1 Effect of dolomite and carbide ash on the yield of coconut

Treatments	mean number of nuts per palm during			Mean
	1970	1971	1972	
To control no (treatments)	52.38	45.50	45.88	47.92
T ₁ dolomite at the rate of 2.5 kg/palm	36.75	38.00	46.00	40.25
T ₂ dolomite at the rate of 5 kg/palm	31.75	35.75	30.38	32.63
T ₃ carbide ash at the rate of 2.5 kg/palm	42.13	41.00	37.63	40.45
T ₄ carbide ash at the rate of 5 kg/palm	46.18	46.50	41.25	44.63
Mean	41.83	41.35	40.23	

C. D. (0.05) for comparison between treatments : 8.60

differences among treatments and control. Palms treated with dolomite at 5 kg/palm recorded significantly lower yield while it was on par with T_1 and T_3 . The results indicated that liming with dolomite or carbide ash had no effect in increasing the yield. Negative response in yield was noticed in T_2 where dolomite was applied @ 5 kg per palm, Krishna Marar (1961) also reported that the necessity of liming coconut as a universal application is still not proved though it is admitted that under certain conditions lime may have beneficial effects. The drop back in yield observed consequent on the application of higher doses of dolomite may be due to the exhaustion of potash reserves in the soil as suggested by Marar. The palms treated with higher doses of carbide ash (T_4) did not show yield drop and as such it can be assumed that carbide ash is more beneficial to coconut palms in the area than dolomite even though the efficacy of both these liming materials are not proved.

സംഗ്രഹം

ഇലക്ട്രോ കെമിക്കൽ വ്യവസായത്തിലെ ഒരു ഗവോraftപ്പുന്നമായ കാർബൈഡ് ആഷ് എന്ന വസ്തുവും കമ്മായത്തിന് പകരം ഉപയോഗിക്കുന്ന ഡോളമൈറ്റ് കായലോര പ്രദേശങ്ങളിലെ തെങ്ങുകൾക്കു ചേർത്തുനോക്കിയതിൽ ഈ രണ്ടു വസ്തുക്കളുടേയും ഉപയോഗം കൊണ്ടു് തെങ്ങായുടെ വിളവു കൂടുതൽ കിട്ടുന്നില്ലെന്നു് കണ്ടു. മറിച്ച് ഒരു തെങ്ങിനു് 5 കി. ഗ്രാം വീതം ഡോളമൈറ്റ് ഇട്ടപ്പോൾ ആദായം കുറയുന്നതായും കാണാൻ കഴിഞ്ഞു. എന്നാൽ മേൽപറഞ്ഞ വസ്തുക്കൾ തമ്മിൽ താരതമ്യപ്പെടുത്തിയപ്പോൾ കാർബൈഡ് ആഷ് ഡോളമൈറ്റിനേക്കാൾ നല്ലതാണെന്നും വ്യക്തമായി.

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