

NEWS AND NOTES

Propagation of Cashew by Wedge Grafting

THE cashew nut (*Anacardium occidentale* L.) is an important nut tree and its large scale propagation is done only through seeds. It is highly heterozygous and cross fertilized. Uniformly high yielding plantations can be established by using plants propagated vegetatively from selected high yielding trees. Successful air layering in cashew has been reported by several workers.¹⁻³ However, the establishment of air layers after planting in the field was poor and hence this could not be adopted for large scale plantation. Side grafting, approach grafting and nurse-grafted Y-cutting have also been reported to be successful in cashew.⁴⁻⁶ Since wedge grafting, which is easier than other methods, has not been attempted in cashew, we carried out some trials to standardise this method.

Good, plump seeds were soaked in water for 24 hr and planted individually in polythene bags containing a good garden mixture. Twenty-one days after sowing, the seedlings were used as root stocks for grafting. The terminal current season's shoots were used as scions. Thick (0.4 cm diameter) as well as thin (0.3 cm diameter) shoots were used, and in each, 50 numbers were used as such and another 50 were used seven days after defoliation (precurving). Observations on the number of successful grafts were taken two months after grafting. Some of the grafted plants started sprouting 14 days after grafting. With thin scions the percentage of success was 62% both with and without defoliation. With thick scions, the percentage take was only 14 for fresh and 20 for precured scions.

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Potassium Dihydrogen Ortho Phosphate, A Substitute for Ortho Phosphoric Acid in Manganese Estimation

THE interference of iron in colorimetric estimation of Mn is often met with during soil and plant analysis. Addition of H_3PO_4 is the usually adopted practice to check this interference prior to developing the permanganate colour.^{1, 2} H_3PO_4 will also check the precipitation of Mn as MnO_2 while oxidising the di or trivalent Mn to heptavalent Mn with KIO_4 .³ Mn-free H_3PO_4 required for Mn estimation is not readily available sometimes.

In our attempts to find out a substitute for Mn-free H_3PO_4 , potassium salt of ortho phosphoric acid (KH_2PO_4) was found to be equally suitable for the colorimetric estimation of Mn. Twenty-four samples each of soil and plant were analysed for Mn in this laboratory using AR quality KH_2PO_4 of

BDH ("Analar") or of Sarabhai M. Chemicals ("Guaranteed Reagent"). The actual modified method adopted is described below.

To an aliquot of the 2 ml of sample extract, a 2 ml portion of 30% solution of KH_2PO_4 was added in place of H_3PO_4 (85%). The acidity of reaction was maintained by using A.R. (Analar) KNO_3 . The rest of the procedure for the estimation of Mn was the same. The values obtained for water soluble,

exchangeable, and easily reducible Mn fractions of soils as well as the Mn content of plant samples were perfectly in agreement with those obtained by using Mn-free H_3PO_4 .

Statistical analysis of the comparative analytical results are presented in Table I.

Thus KH_2PO_4 can not only substitute H_3PO_4 , but it is also economical since there is a 92% saving in the cost. Mn-free NaH_2PO_4 can also be used in place of H_3PO_4 but KH_2PO_4 would be cheaper.

TABLE I

Comparison of the results of Mn estimation using H_3PO_4 and KH_2PO_4

	Mean Mn values (ppm)	
	Soil	Leaf
Method of analysis		
(1) using H_3PO_4 ..	47.72	225.63
(2) using KH_2PO_4 ..	47.62	225.88
Mean differences ..	0.10	0.25
Value for paired differences $n=24$	1.90	1.81
Inference ..	Not significant	Not significant

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