Table 3. Effect of irrigation levels, soil amendments and irrigation on K uptake (kg ha^{-1}) as 30 60 DAS harvest

	30 DAS					60 DAS					Harvest				
	C	F	I_1	I_2	Mean	C	F	I_1	I_2	Mean	C	F	I_1	I_2	Mean
L_1	69.80	69.60	69.56	69.85	69.70	183.09	181.85	180.15	184.79	182.47	159.58	158.60	156.65	161.53	159.09
L_2	69.03	68.85	68.58	69.30	68.94	181.23	179.94	178.44	182.73	180.58	157.67	156.16	155.31	156.16	156.92
L_3	68.49	68.35	68.41	68.43	68.42	177.74	175.54	173.69	179.59	176.64	153.61	153.53	152.21	154.93	153.57
L_4	70.76	70.31	70.28	70.79	70.53	185.44	183.94	182.97	186.42	184.69	162.15	160.47	158.80	163.81	161.31
I_1	69.35	69.06	-	-	-	179.35	178.27	-	-	-	156.35	155.14	-	-	-
I_2	69.70	69.49	-	-	-	184.40	182.36	-	-	-	160.15	159.24	-	-	-
Mean	69.52	69.28	69.21	69.59	-	181.88	180.32	178.81	183.38	-	158.25	157.19	155.74	159.70	-
			SEd		CD		SEd		CD			SEd		CD	
I-Irrigation			0.095		0.232		0.093		0.227			0.235		0.576	
M-Amendments			0.095		0.232		0.093		0.227			0.235		0.576	
L-Layouts			0.093		0.277		0.306		0.749		0.263			0.644	

No Interaction effect

Potassium uptake

The data on the uptake of potassium (Kg ha^{-1}) relating to 30 60 DAS and at harvest are furnished in Table 3. On 30 DAS, 60 DAS and at harvest stages the treatment of 0.75 IW/CPE recorded, higher K uptake followed by 0.6 IW/CPE. At harvest stage, irrigation level of 0.75 IW/CPE resulted in higher uptake of K (159.70 kg) as compared to 0.6 IW/CPE (II) accounting for 155.74 kg ha^{-1}. With reference to amendments, coconut fibre waste treatments recorded higher K uptake followed by farmyard manure at all stages. At harvest stages, the coconut fibre waste resulted in higher uptake of 158.25 kg ha^{-1} followed by farm yard manure with 157.19 kg ha^{-1}. Regarding irrigation layouts, paired row furrow resulted in higher K uptake in all the stages. At harvest stage, paired row furrow resulted in higher uptake of 161.31 kg followed by all furrow (159.09) and alternate furrow (156.92 kg) skip furrow recorded significantly lesser uptake of 153.57 kg.

It can be concluded that the uptake of nutrients was highly influenced by the treatments. The maximum uptake of nutrients was seen in treatments, at 0.75 IW/CPE, coconut fibre waste and with in paired row furrow, (double row) planting besides water economy.

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EFFECT OF N P K FERTILIZATION ON COCONUT HYBRID

R. VENKITASWAMY, A. CHRISTOPHER LOURDURAJ, P. DEVASENAPATHY, C.S. SRIDHARAN, R. MADHIYAZHAGAN and N.K. PRABAKARAN

Agricultural Research Station
Tamil Nadu Agricultural University
Aliyar Nagar - 642 101

ABSTRACT

A field experiment was conducted at the Agricultural Research Station, Aliyarnagar from 1988 to 1996 to study the effect of NPK fertilization on coconut hybrid Chandra Sankhara. The results revealed that application of NPK @ 500:250:1000 g/palm/year recorded more nut yield and growth and yield characters.

KEY WORDS : Coconut hybrid, N P K fertilization, nut yield

The coconut palm, a tree crop of the humid tropics, is versatile in its adaptability to a wide range of soil and climatic conditions. Large scale fertilizer demonstration trials conducted showed that application of 340:340:680 g NPK/palm/yr resulted in increased yield (John and Jacob, 1959). The fertilizer recommendation under Tamil Nadu conditions for adult coconut tall palms are

ble 1. Effect of NPK levels on growth, yield characters and nut yield of coconut hybrid

Treatments	Total leaf production		No.of spadices produced/palm		Female flowers/palm		Nut yield (nuts/palm/yr)	
	94-95	95-96	94-95	95-96	94-95	95-96	94-95	95-96
Levels								
0	74.4	82.8	6.7	9.7	109	111	31.4	30.6
500	78.0	88.4	10.4	10.8	241	159	83.0	47.0
1000	76.8	87.5	9.9	10.7	144	164	48.9	40.7
Levels								
0	76.2	86.4	9.4	10.7	106	125	32.2	318
250	76.8	87.4	10.8	10.4	211	145	65.1	43.6
500	75.2	84.8	9.4	9.7	223	164	66.0	42.9
Levels								
0	78.0	84.8	10.2	9.5	159	142	47.0	35.7
1000	76.3	87.2	11.3	11.1	201	165	66.7	51.1
2000	76.3	86.2	8.2	10.5	134	127	40.6	31.6
CD(N,P,K)	NS	NS	1.7	NS	39	42	30.4	10.5
CD(NP, PK, NK)	NS	NS	NS	NS	NS	73	NS	18.2

):320:1200 g of NPK/palms/year. (Anon., 1994). wever, information on hybrid coconut was not ilable. Hence, the present study was undertaken.

TERIALS AND METHODS

A field experiment was conducted at the ricultural Research Station, Aliyarnagar under India Co-ordinated Research Project on palms tstudy the effect of NPK fertilization on coconut brid Chandra Sankhara (Chowghat Orange warf X West Coast Tall). The soil was sandy lm with low, high and high in available N, P_2O_5 d K_2O with a pH of 7.7 and Ec 0.14 m. mhos/cm. le treatments comprised of 3 levels of N(0, 500, 00 g/palm/yr), 3 levels of P(0, 250, 500 palm/yr) and 3 levels of K(0, 1000, 2000 palm/yr). There were totally 27 treatment mbinations. The experiment was laid out in 3^3 nfounded design with two replications. The edlings of hybrid Chandra Sankhara was nsplanted on 17 December 1988. The fertilizers re applied as per treatment schedule. During first ee years 1/10, 1/3, 2/3 doses of fertilizers were plied as per the treatment schedule in a 1.8 m dius basin. Observations on growth and yield haracters and nut yield were recorded.

ESULTS AND DISCUSSION

The results indicated that applic n of N (creased the total leaf productio number of ndices/palm and number of fem e flowers at 500 evel during both the years (Ta e 1). Application P 250 g/palm/yr recorded more total leaf production, more number of spadices/palm and more female flowers but the effect was not statistically significant in a few characters. Application of K did not have any significant difference among total leaf production, and number of spadices/palm. However, application of K @ 1000 g/palm/yr increased the female flower production during both years.

Application of NPK @ 500:250:1000 g/palm/yr in two equal splits recorded more yield during both the years. The average yield was low and that may be due to the bearing age of the palm (6th year and 7th year). The increased nut yield at 500:250:1000g of NPK level may be due to the increased number of female flowers in all the above treatments. The interaction effect on yield was significant only during 1995-96. The levels N 0, P 500 and K 1000 and N 1000, P 500 and K 1000 have recorded a maximum yield of 90.6 and 95.5 nuts/palms/year respectively.

It can be concluded that a fertilizer dose of 500:250:1000 g of NPK/palm/yr can be recommended for the hybrid Chandra Sankhara from fourth year onwards.

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