

The percentage establishment of root cuttings and the mean dry matter produced decreased as the concentration of picloram increased from 1 to 10 ppm. Since the dry matter produced in treatment Picloram 10 ppm was very little, higher concentrations of picloram may completely inhibit any root generation. Again the dry matter content decreased when the duration of soaking was increased from 6 hours to 48 hours. When the length of root cuttings were taken into account, the treatmental differences both in the establishment and dry matter production were not significant.

The results indicate that soaking of white horsenettle root cuttings for 48 hours in a solution containing 10 ppm of picloram was effective in preventing their establishment and reducing their growth rate. Under field conditions, flooding the field for 48 hours with water containing 10

ppm of picloram may be effective for suppressing spread of white horse nettle weed.

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REFERENCES

- KAILASAM, C., A. V. RAJAN, S. SANKARAN and Y. B. MORACHAN, 1974. Evaluation of herbicides on the control of white horsenettle (*Solanum elaeagnifolium* Cav.) — A perennial weed in the cultivated fields of Tamil Nadu. *Madras agric. J.* **61**: 619—23.
- SMITH, D. T. and A. F. WIESE, 1970. Herbicide control of Silverleaf nightshade, Ground Cherry, Buffalober and Nutsedge. *Texas Agr. Exp. Sta. Progress Report*, 2850.
- TIDEMAN, A. F. 1965. Picloram, a new herbicide. *J. Dep. Agric. S. Aust.*, **59**: 30—2 (*Weed Abstr.* **15**: 165).
- WIESE, A. F., 1969. Perennial weed control in Northwest Texas. *Texas Agr. Exp. Stal Misc. Pub.* 828.

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Effect of Manuring on the Nutrient Contents of Guinea Grass (*Panicum maximum*)

Fodder grasses are grown in Tamil Nadu without the application of organic manures or inorganic fertilizers. The value of any crop including fodder grasses will depend upon its dry matter yields and nutrients in them. With the object of studying the nutrients of *Panicum maximum* as influenced by the application of organic manure

(FYM) and inorganic (nitrogenous or phosphatic) fertilisers either singly or in combination among themselves, guinea grass slips were grown under different manurial treatments (Table). The crop was grown in red sandy loam soil in the Central Farm of Agricultural College, Coimbatore. Irrigations were given once in 10 days and the

TABLE Dry matter yield and nutrient content of guinea grass

	Percentage of		Percentage in the dry matter					Crude fibre
	Moisture	Dry matter	Ash	P ₂ O ₅	CaO	Total protein	True (Albuminoid, protein	
Control (No manure)	7.40	92.60	14.43	0.533	1.421	6.27	4.45	26.31
Bone meal 30 kg P ₂ O ₅ /ha	7.62	92.38	15.31	0.525	1.081	8.86	4.53	26.88
Ammonium sulphate 30 kg N/ha	7.41	92.59	15.00	0.643	1.271	9.86	5.81	26.36
Super phosphate 30 kg P ₂ O ₅ /ha.	7.24	92.76	12.39	0.318	0.877	8.41	4.06	23.39
Farm Yard manure (FYM) 10 tons/acre	7.77	92.23	14.30	0.494	1.135	8.55	4.19	25.66
FYM 10 tons plus bone meal 30 kg P ₂ O ₅ /ha	7.20	92.58	18.14	0.709	1.588	7.98	4.49	26.91
FYM 10 tons plus super phosphate 30 kg P ₂ O ₅ /ha	7.42	92.58	14.93	0.500	1.335	7.23	4.60	28.17
FYM 10 tons plus ammonium sulphate 30 kg N/ha	7.28	92.72	15.50	0.359	1.400	6.79	4.37	27.12
Ammonium sulphate 30 kg N plus super phosphate 30 kg P ₂ O ₅ /ha	7.39	92.61	16.93	0.524	1.480	7.10	4.67	26.21
Ammonium sulphate 30 kg N plus super phosphate 60 kg P ₂ O ₅ /ha	7.33	92.67	12.82	0.584	1.092	7.23	5.26	28.28

crop was harvested at full bloom. The samples were air dried and were analysed for total and true proteins, crude fibre, ether extractives, ash content and lime and phosphoric acid in the ash adopting routine procedures. The results were presented in the Table.

The various constituents analysed were found influenced by the application of manures and/or inorganic fertilizers. Application of 10 tons of farm yard manure in combination with 30 kg phosphoric acid as bonemeal recorded highest dry matter yield and ash phosphoric acid and lime in its dry matter Kandaswamy *et al.* (1973) have also obtained similar results for *Cenchrus ciliaris*.

Application of ammonium sulphate at 30 kg. nitrogen yielded the maximum amount of both total and true protein. Chatterjee (1937) and Mukerjee and Agarwal (1942) also obtained increased yields of protein by the application of ammonium sulphate to pastures and grasses. Varadarajan *et al.* (1959) also concluded that ammonium sulphate increased the protein content of

Kolukottai and Rhodes grasses. They have also stated that a judicious combination of both ammonium sulphate and cattle manure resulted in good quality pastures.

A combination of ammonium sulphate (30 kg N) and super phosphate (50 kg P_2O_5) yielded maximum percentage of ether extractives and crude fibre contents.

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REFERENCES

- CHATTERJEE, I. B. 1937. Fodder grasses and their quality *Ann. Rep. Physiol. Chemist. Bengal*.
- KANDASWAMY, P., G. V. KOTHANDARAMAN and T. S. MANICKAM. 1973. Nutritive value of a fodder grass as influenced by manuring *Madras agric. J.* 60: 401-2.
- MUKHERJEE, B. K. and Agarwal, R. R. 1942 *Animal Nutrition Research in India* (1953). Macmillan Company, Bombay.
- VARADARAJAN, S., M. SUNDARAM and P. VENKATARAMAIAH. 1959. Effect of Manuring on the quality of grasses. *Indian J. Agric. Sci.* 29: 35-44.

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Effect of Moisture Stress at Different Growth stages of Groundnut

A field trial was conducted at the Agricultural College and Research Institute, Madurai, under the I. C. A. R. Scheme on New Cropping Patterns and Water Use to study the optimum moisture stress at different growth stages of groundnut using climatological approach. The treatments consisted of two levels of moisture stress

on the ratio between irrigation water and cumulative pan evaporation. The two levels $\frac{IW}{CPE} = 0.9 (I_1)$ and $0.6 (I_2)$ were tried at three stages of crop growth viz., (i) sowing to flowering (30 days), (ii) effective pegging (30 days), and (iii) pod formation and maturity (45 days).