

Results: Root-knot nematode was the most damaging nematode in the rhizosphere of pepper. Methanolic extract of *Andrographis paniculata*, *Glyricidia maculata* and *Chromolaena odorata* were effective against *M. incognita* in increasing the mortality of juveniles at 24, 48 and 72 hours after treatment (72 to 97 per cent) under *in vitro* condition. Results of pot culture experiments using different plant preparations revealed that *A. paniculata* dried powder @ 25 g/kg soil suppressed the nematode population in soil (78%). Micro plot studies confirmed that the above treatment is significantly superior to bioagent, *Purpureocillium lilacinum* and neem cake treatments.

Conclusion: Soil amendment with dried powder of *A. paniculata* @ 25 g/plant can be recommended as a best substitute for chemical nematicides in managing root knot nematode infestation in pepper

Keywords: *Meloidogyne incognita*, Black pepper, *Andrographis paniculata*, management

01-12

YIELD STABILITY ANALYSIS OF HEDGE LUCERNE GENOTYPES (*DESMANTHUS VIRGATUS* L. WILLD)

Arun Chacko¹, Mareen Abraham² and Shahiba A. M¹

1. Department of Plant Breeding and Genetics

2. AICRP on Forage Crops and Utilization, College of Agriculture, Vellayani
Kerala Agricultural University, College of Agriculture, Vellayani, Trivandrum, 695522.

Background: Livestock rearing is an integral part of the various farming systems and has been a major source of employment in rural areas for centuries. Its share is 4.4 per cent to the Gross Value Added of the agriculture and allied sector. Stagnation in the availability of green fodder and its increasing deficit over the years is a major concern. Along with productivity enhancement, it becomes all the more essential for ensuring the availability of quality feed and fodder to sustain higher productivity in animals. Hedge lucerne, being a perennial fodder legume can be also used as a protein supplement for the livestock. Multilocation trials of hedge lucerne genotypes were conducted across four locations in Kerala viz., Trivandrum, Kollam, Thrissur and Wayanad for yield and quality parameters in the view of assessing the stability of genotypes.

Method: In this study eight hedge lucerne genotypes were evaluated. The biometric, yield and quality characters of the genotypes were recorded at the time of each harvest. Four harvests were taken in a year. Analysis of Variance (ANOVA), mean performance of genotypes, stability analysis using Eberhart and Russell model, pooled analysis of variance for the genotypes were done for different characters over four locations.

Results: The genotype T₈ (Thumburmuzhi local) recorded the maximum green fodder yield, dry matter production, crude protein and crude fibre content. Stability analysis revealed that the genotype T₁ (IC 345276) was stable over all locations for different characters such as plant height, number of branches, green fodder yield, dry matter production and crude fibre. The genotype T₈ (Thumburmuzhi local) was stable in favourable environment for length of branches, green fodder yield, dry fodder yield and dry matter production.

Conclusions: Genotype-environment interaction is one of the basic reasons for the difference in high performance in genotype for the yield and other essential agronomic traits.

Keywords: Hedge lucerne, Stability, Biometric characters, Yield

01-13

CROP NUTRITIONAL RESILIENCE AS AN INTEGRAL PART OF SOIL AMELIORATION FOR ENHANCED FRUIT YIELD AND QUALITY IN PAPAYA (*CARICA PAPAYA* L.) : AN EMERGING NUTRACEUTICALLY IMPORTANT FRUIT CROP OF KERALA

Bindu B and Karishma Sebastian

Krishni Vigyan Kendra, Kerala Agricultural University, Kottarakkara, Kollam

Background: Papaya is one of the most commonly cultivated tropical fruit crops, which gained popularity due to its nutraceutical properties. It is slowly emerging from the status of a homestead crop to that of commercial crop in Kerala. Major production constraint encountered in papaya is difficulty in maximizing yield with in unit time. Due to the increasing popularity of the crop, a progressive farmer has started its commercial cultivation in Kerala. Reluctance in giving proper care and scientific management has resulted in decrease in fruit size, quality and yield. Balanced nutrition plays a vital role on plant growth, yield and fruit quality. One of the reasons for low production in papaya is inadequate

