



## on Coffee leaf rust

Getrude Alwora<sup>1</sup> (alworahgetrude@gmail.com), Douglas Miano<sup>2</sup>, Mary Gikungu<sup>3</sup>, Huria Nderitu<sup>2</sup> and Elijah Gichuru<sup>1</sup>

<sup>1</sup>KALRO- Coffee Research Institute, P.O. Box 4-00232 Ruiru, Kenya

<sup>2</sup>University of Nairobi, Department of Plant Science and Crop protection, P.O. Box 29053 - 00625 Kangemi, Kenya

<sup>3</sup>National Museums of Kenya Corporate Headquarters. Museum Hill. P.O. Box 40658- 00100. Nairobi, Kenya

**Introduction**  
 Commonly used medicinal plants produce secondary metabolites that have been shown to have antimicrobial properties <sup>1</sup>. The aim of this study was to determine the antisporulative potential of crude extracts *Allium sativum*, *Capsicum annuum*, *Piper nigrum*, *Lantana camara*, *Tagetes minuta*, *Zingiber officinale*, *Azadirachta indica*, *Salvia rosmarinus* and *Eucalyptus grandis* against *Hemileia vastatrix* the causal agent of coffee leaf rust.

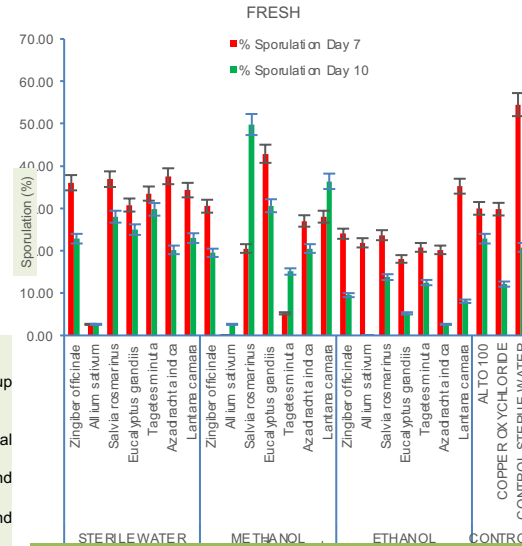
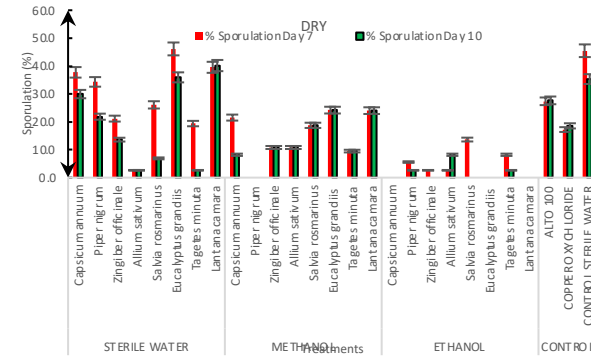


Fig. 2 Percent sporulation of CLR lesions on detached leaves after treatment with extracts of fresh medicinal plants and standard chemicals



## Results/Discussion

The mean percentage sporulation in the controls was :-distilled water 42.10% , copper oxychloride 13.89% and cyproconazole 2.13% *sativum* had the lowest sporulation of 2.66% as compared to *P. nigrum* 8.38%, *T. minuta* 9.95%, *Z. officinale* 11.92%, *S. rosmarinus* 13.77%, *C. annuum* 13.43%, *L. camara* 20.16%, *A. indica* 16.44% and *E. grandis* 19.14% . Sporulation in the methanolic extracts was lower than the other solvents.

## Materials/Methods

- The leaf rust infected coffee leaves with uniformly spaced lesions were detached up to the 4<sup>th</sup> node from the tip of the branch from the susceptible variety SL 28.
- The trial was laid out in an RCBD of 3 replications and was repeated twice.
- Plant extracts were prepared by mixing 10gms of either fresh or dried test medicinal plants in 100 mls of double distilled water, 70% methanol and 70% ethanol.
- The leaves were sprayed with the solvents containing the different extracts and incubated at room temperature for 21 days.
- The control was double distilled water, Copper Oxychloride at 0.38 gms/100mls and Cyproconazole at 0.05 mls/100mls.
- Percentage sporulation was scored on the 7<sup>th</sup> and 10<sup>th</sup> day

## Conclusion/Perspectives

All the tested extracts have a potential to inhibit sporulation of *H. vastatrix*, especially *A. sativum* (garlic), however, preparing these extracts when dry is more effective. Furthermore, sporulation declines overtime as the extracts as applied. Further studies to determine the specific metabolites that inhibit sporulation as well as rates of application and performance under field conditions are underway.

## References:

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