

Integrated Pest Management minimizes contamination

Integrated Pest Management (IPM) for managing crop pests and diseases involves tolerant varieties, necessary sprays, natural enemies conservation and use of disease-free planting materials early planting and application of selective pesticides and less toxic botanical extracts. Pepper, Tephrosia, Mexican marigold among others are all encouraged.



Pepper



Mexican Marigold

Use improved forages to rehabilitate degraded ASALs

Cenchrus ciliaris, a high herbage yielding forage has been developed and introduced in marginal rainfall areas. In addition to forages for livestock, the grass rehabilitates degraded land thereby contributing to environmental conservation.



Cattle grazing on improved pastures



Kenya Agricultural Research Institute

P.O. Box 5781 | 00200, NAIROBI.

Tel: 254-20-4183301-20, Fax: 254-20-4183344

Email: resource.centre@kari.org

Website: www.kari.org

Compiled by:

Odongo, O. M., Kiiya, W., Mutoko, M. C., Mula, M.A., Wambani, H. N.
and Nyambati, E. M.

For more information contact:

Centre Director,

KARI Kitale Box 450 Kitale, 30200

Tel: (054) 201079

Fax: (054) 30378

Email: inmaktl@africaonline.co.ke

KARI information brochure series / 76 / 2008

Ksh. 20

**Use KARI tested technologies
to preserve environmental health**



Introduction

KARI's mission is to contribute to improved livelihoods through agricultural innovations and knowledge. In fulfilling this mission, negative effects on the environment are avoided to ensure sustainable agricultural productivity.

How KARI contributes to Environmental conservation

KARI conducts research on high yielding crop varieties, integrated pest and nutrient management, host plant resistance, livestock disease immunisation among others for different zones and farming systems in the country.

High yielding varieties require less land

High yielding crop varieties for the high altitude, moist transition zones have been developed and released. An example is Maize variety KH 600-11D with an average yield of 40 bags per acre, compared to 10 bags from local maize varieties.



High yielding maize

High Napier grass yields of 8-10 tonnes per acre can be obtained by planting Bana Napier grass as opposed to 2-4 tonnes per acre dry matter yield obtained from natural pastures.



High yielding Napier grass

High yielding varieties require less land to give more yields than low yielding varieties. This eases pressure on land and avoids destruction of water catchment areas.

Pest /disease tolerant varieties, Require less chemical

Disease tolerant crops such as Tigon potato and KK 8 bean variety have been released by KARI. These crops are tolerant to potato blight and bean root rot diseases, respectively.

Push-Pull technology

"Push-Pull technology" for control of maize stalk borers has been jointly tested by KARI and ICIPE. This technology minimizes application of insecticides that would contribute to environmental pollution.



Maize, desmodium and Napier grass in Push-Pull technology

Tissue culture bananas require less chemical and provide soil cover

Rapid multiplication of bananas by tissue culture technique has been tested and disseminated by KARI. These bananas are diseases and pest free and thus require less chemicals. Banana is a perennial crop and provides year round vegetation cover that minimises soil erosion.

Green manures improve soil fertility and moderate CO₂ gas

Legume green manures like velvet beans (*Mucuna*) improve soil fertility and structure. Their leafy canopies minimize soil erosion and enhance soil fauna. Their year round vegetation cover reduces CO₂ accumulation in the atmosphere and thus contribute to reduction of Global warming.

Mucuna forage contains 17% crude protein and when fed to dairy cows, milk production increases. *Mucuna* can be made into silage by combining with maize in the ratio of 75% maize and 25% *Mucuna*.



Mucuna