

Background: The Government of Uganda resolved to support the generation, dissemination and adoption of productivity-enhancing technologies; and to improve the access of smallholder farmers to Markets. The technologies include high-yielding crop varieties and land management techniques which have been developed and released by the national agricultural research system (NARS). For farmers to gain optimum productivity from these technologies, they have to be adapted to their local agro climates. Maize is currently the most important cereal crop in Uganda, with high food value both for humans and livestock. Maize is produced on an average land area of 384,000 ha and production has averaged 522,000 MT with a grain yield of 1.3 mt/ha. The NARS has released several varieties of maize, including Kawanda Composite A ; Longe 1-5; and Uganda Hybrids (A to D). A number of varieties from other countries are available on the Ugandan market. Farmers are therefore faced with a challenge of choosing varieties best suited to their needs in their specific agro climates. The purpose of this experiment was to demonstrate that different varieties are bred for specific regions. Therefore farmers are encouraged to regularly visit the station to consult on the most adaptable planting materials.

Methodology: Seven maize varieties were sourced from seed and input dealers around the Mt. Elgon zone. The varieties comprised five imported hybrids (DK8031, H614, H624, H625 and H628) and two locally bred open pollinated lines (Longe 4 & 5). The varieties were planted in plots of 10 by 10 m on well prepared land. All varieties were planted according to the recommendations on the packaging material and on the same day. The experiment was laid out in a CRD. Parameters measured during growth included days to maturity (DTM), days to harvest (DTH), plant height (PH) at harvest, cob length, number of cobs normal, number of cobs damaged and weight of grain per plot. The data was subjected to ANOVA analysis using SAS and means derived. Spacing and seed rate were not significantly different although measured parameters were significantly different within varieties (0.0001).



Fig 1. Maize varieties under evaluation at Buginyanya

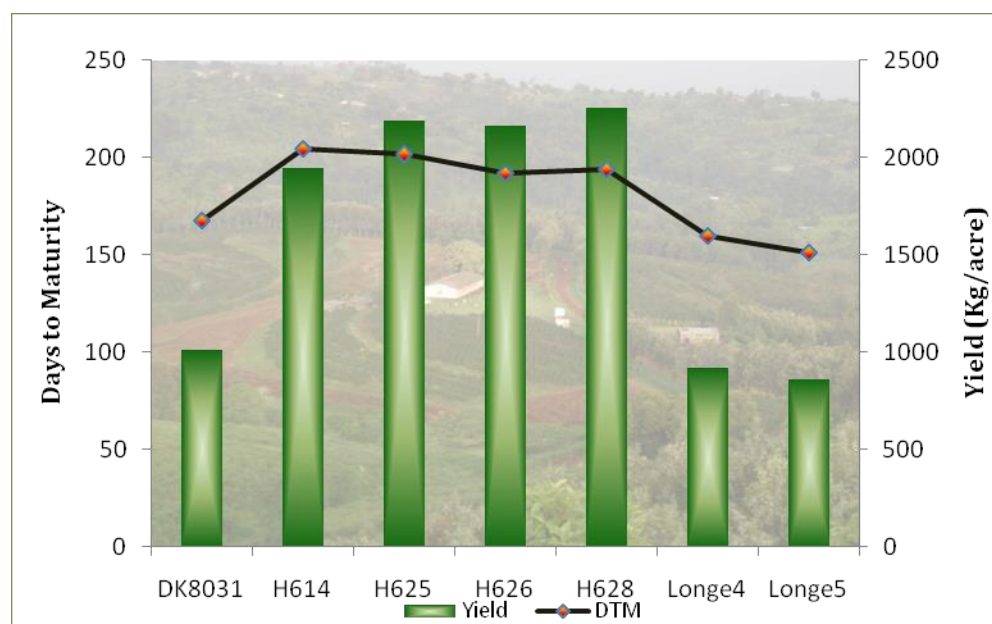


Fig. 2 Yield and days to maturity of maize varieties grown in SEAEZ

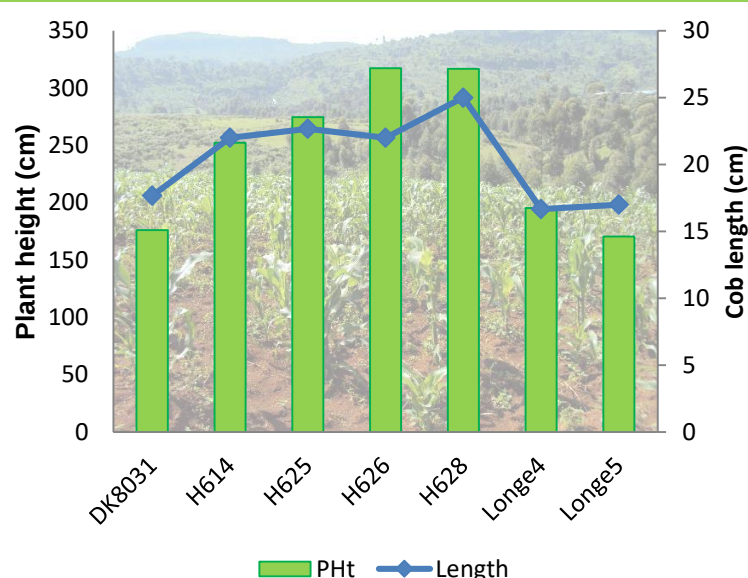


Fig 3. Effect of maize varieties on plant height and cob length

Conclusion: Varieties H628, H626, H625, H614 are recommended for SEAEZ because of their high yield (Fig 2)

- Hybrids take 190-200 days, longe 4 & 5 takes shorter but has significantly less yield
- Hybrids 628 & 626 are the tallest with longest cobs thus highest yield (Fig 3)
- Seeding rate has no effect thus use 2 seeds per hole for better plant stand
- Use recommended spacing on packages; though 75 x 30 cm to increases plant population
- Consult the institute for recommended varieties