



Spatial arrangement and planting date in Maize-haricot bean intercropping, north western Ethiopia



Improving land use efficiency through intercropping

Intercropping of cereals and legumes is essential for development of sustainable food production systems particularly in cropping systems with limited external inputs due to high productivity and profitability, improvement of soil fertility. The practice was evaluated for maize-haricot bean intercropping system in north western Ethiopia; Adet and Finoteselam Research stations. Two years on-farm trials were conducted to compare a combination of different planting patterns and haricot bean planting dates for land use efficiency of maize-haricot bean intercropping. Research results showed that paired planting pattern (2 by 2) when haricot bean planted at maize emergency gave the highest land use efficiency.

Component crop varieties:

Main crop: Maize, variety BH540;

Supplementary crop: Haricot bean, variety Chorie

Maize-haricot bean intercropping cultural practices

Tillage Practice: the land should be oxen ploughed or using Conservation agriculture

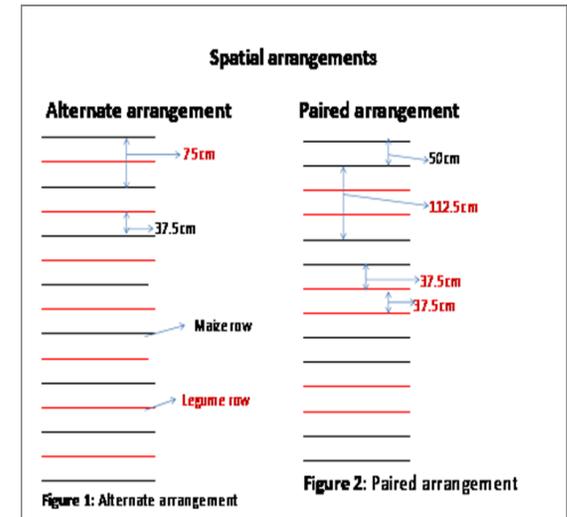
Planting: At Adet, planting of both component crops should be done at the beginning of June depending on the onset of rainfall.

Planting: At *Finoteselam*, maize should be done at May 15–28 depending on onset of rainfall then after maize emergency (6–7days), haricot bean should be intercropped

Fertilizer application: About 274kg/ha urea and 300 kg/ha DAP should be applied only for Maize. All DAP and 1/2 UREA should be applied at planting while the remaining 1/2 UREA should be applied at knee height of maize.

Spacing: At both location the distance between a pair of maize and a pair of haricot bean is 37.5 cm. The distance between maize rows is 50 cm while the distance between haricot bean rows is 37.5 cm (see Figure).

Weed management: 1–2 weeding were enough for all intercropping system.



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