Which Control for Witchweed?

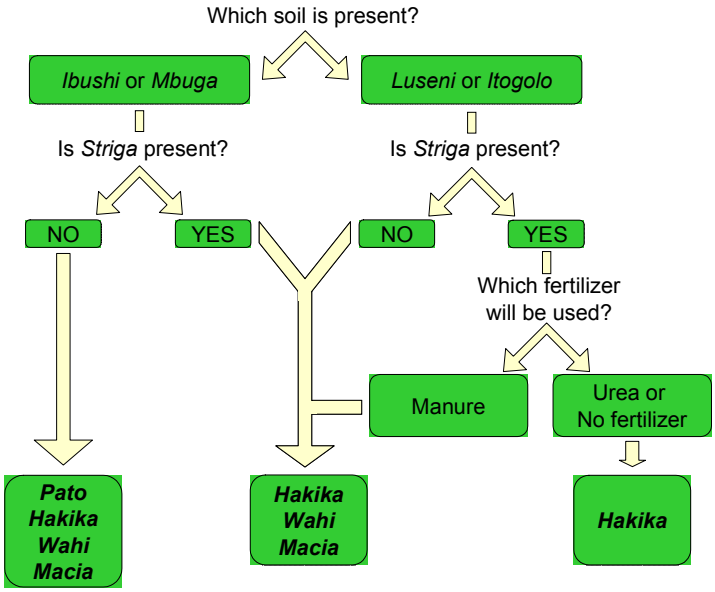
Striga species, the so-called witchweeds, are widespread noxious parasitic plants, usually affecting the poorest farmers on the poorest soils in semi-arid areas of eastern and southern Africa. On poor soils in some seasons, these weeds

The parasitic witchweed *Striga hermonthica*

reduce yields of sorghum by as much as 80%, increasing the vulnerability of people who have limited assets and have to cope in an environment characterized by frequent drought and declining soil fertility.

In farmer-participatory trials in Tanzania the CPP-funded project R7564 has identified two *Striga*-tolerant varieties of sorghum. These varieties are so successful against *Striga,* and popular with farmers, that they have been approved for release by the Tanzania seed registration authority. Both varieties, *Hakika* (meaning 'be sure', that is to say, farmers are sure of a harvest from witchweed-infested fields) and *Wahi* ('early'), mature early and have good drought tolerance, grain quality and taste. The new varieties support lower numbers of *Striga hermonthica* or *S. asiatica* to produce 10–150% higher yields on infested fields compared to previously available cultivars.

Finding tolerance is only part of the battle against *Striga* – farmers and other stakeholders need information on how best to make use of the varieties now available. *Hakika,* for example, shows a high degree of tolerance to *Striga* even at the low and declining nitrogen levels typically found in many continuously cultivated fields that witchweeds thrive in. By contrast, the currently grown cultivar *Pato* performs well when witchweed is absent and is very responsive to manure. The recently released *Macia* is also susceptible to *Striga* but is intermediate in response to the parasite and can be grown on the more fertile, infested soils or where manure is used. Information from laboratory and field trials incorporated into a simple decision tree provides an aid to farmers as to which sorghum variety is likely to perform well, depending on soil type, the presence or absence of witchweed and the availability of manure or the inorganic fertilizer urea. By selecting the most appropriate variety of sorghum, even the poorest of farmers can live with witchweed.



Decision tree to guide choice of sorghum cultivar for planting on major soil types in Lake Zone, Tanzania

R7564: Integrated management of *Striga* species on cereal crops in East Africa
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