

Herbicide Adoption Could Greatly Increase Cassava Production in Africa

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Cassava originated from tropical America and was first introduced into Africa around 1558. It then spread rapidly and became a dietary staple in Africa. Cassava is rich in carbohydrates, calcium, vitamins B and C and essential minerals. Cassava serves as a major staple food for more than 200 million people in sub-Saharan Africa; average consumption is around 80 kilograms of cassava per year. It is estimated that 37% of dietary energy comes from cassava. Cassava is an important crop for food security as it is available all year round. The major economic portion of cassava is the storage root, in which starch is stored. The roots can remain in the soil for several years after they mature. The demand for cassava is increasing in Africa and this is being driven by population growth as well as the efforts of governments to add value to cassava through processing into different food forms and animal feeds [1]. Cassava yields in Africa are low; average yields in farmer fields are 9-10 tons/ha which are more than 50% lower than yields on experimental farms [2].



Cassava

Weed infestation is a major constraint in cassava production in Africa. Generally, in Africa, weeds in cassava are not regularly controlled. Cassava is susceptible to weed interference during the first 10 to 16 weeks after planting because of slow canopy development for ground cover and weed suppression. Storage root yield reductions caused by uncontrolled weed interference in cassava ranges between 40% and total loss [3]. Most African farmers still use manual labor such as hoe weeding. This method of weed control is expensive and requires proper timing which farmers often do not fulfill due to competing household labor demands. This is in addition to the drudgery associated with hoe weeding [1]. The delay in carrying out first weeding up to two months after planting is common in smallholder farms. Root yield reduction from such delays may range from 20 to 50% [1]. Households give preference to weeding maize, groundnuts and millet fields over weeding cassava fields. Studies in West Africa show that weeding adequately would require about 50% of the average of 300 mandays required for cassava production [1]. High labor requirements for weeding cassava means that many farmers do not increase the amount of cassava planted on their farms. Research has shown that weed management causes an average yield gap of 5 tons/ha and restricted production most in farmer's fields in a dry year (yield gap of 11.6 tons/ha)[2].



Weedy Cassava

Several commercially available herbicides have been evaluated for weed control in cassava in Africa and recommendations have been made to farmers on the use of herbicides. Research has shown that adoption of chemical weed control is the most effective method of controlling weeds in cassava producing higher yields and income and saving labor [1]. Hoe weeding is four times more expensive than using herbicides. Labor use for weed control decreased by 54% to 96% when farmers switched from hoe weeding to chemical control[1]. However, less than 3% of the farmers in West Africa use herbicides [4]. Farmer surveys have identified lack of awareness as the most important constraint on the non-adoption of herbicide use in cassava [4]. Another factor in non-adoption of herbicides is pressure from NGO's on farmers to not use herbicides [1]. A major constraint is the lack of technical skills to use herbicides. To resolve this issue, the formation and training of commercial weed control business groups to assist farmers with the use of herbicides could be established [1].



Herbicide Treated

References

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