

Yields:

Grass Mulch – 4.63 tons/ha

Black polythene - 5.2 tons/ha

Weeding every 2 weeks- 4.69 tons/ha.

The yield benefits with mulches are more than hand weeding and surpass the costs incurred in acquiring and applying the mulches.



Use black polythene mulch to lower labour costs



High quality onions yields



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Control weeds in bulb onions for high yields



Introduction

The bulb onion is the third most important vegetable for the local market in Kenya. It grows best at below 1,900m altitude; 500-700mm rainfall; 15- 30 °C temperature range; fertile, well-drained sandy loams with a pH of 5.8 - 6.5.

The onion plant has shallow adventitious roots arising from a short stem which makes it highly susceptible to competition from many broad and narrow leafed weeds. Plants in heavily infested fields exhibit spindly growth and in extreme cases total crop failure occurs.

Various weed control methods are used including hand weeding, herbicides and mulching.

Hand weeding

Although strenuous and labour intensive, hand weeding has continued to be the major weed control method used by most onion growers in Kenya.

Herbicides

Use of pre-emergence herbicides applied at two weeks after transplanting controls weeds throughout the onion growing period.



Hand weeded plot

Organic and inorganic mulches

Different mulch types control weeds by suppressing their growth.

i) Grass mulch

The soil surface around the onion stems is covered with 5 cm deep dry grass two weeks after transplanting and left in place through out the season.



Dry mulch

Termite infestation on the mulch may necessitate addition of the grass one month later.

ii) Black polythene mulch

A black polythene sheet is laid on the soil surface before onion transplanting. Planting holes are made on the polythene sheet at intervals of 10 x 20cm. This is done in the entire plot and the sheet remains in place until the crop matures.



Black polythene mulch

Onion seedlings transplanted under grass or black polythene mulch do not require weeding. This is because weed infestation and moisture loss is controlled by the mulch cover and the onion crop produces high yields and better quality bulbs.