Oat-vetch mixture forage

Introduction

Oat and vetch are annual forages, which—when grown using intercropping—provide a high biomass yield of good nutritional quality. While oat comes from the grass family, vetch is a leguminous forage. Consequently, oat-vetch mixture is a balanced feed in terms of energy and protein contents, and has very high feed values for animals as green fodder or hay. Moreover, vetch potentially offers substantial improvements in terms of soil fertility through nitrogen fixation and serves as a weed and disease break when used in crop rotations.

Growth

- Oat and vetch are compatible when grown using intercropping and have a short growth cycle, ranging from 60–90 days before the forage can be used as feed.
- This feature enables farmers to effectively use available rain to produce good quality fodder in a short period of time and free up their land for other crops.
- The short growth cycle also makes these forage combinations suitable to be grown under irrigation.

Land preparation

- The land preparation for oat and vetch is similar to that needed for other crops. It needs to be ploughed repeatedly, preparing a smooth plot, before the seeds can be sown.
- The land also needs to be well drained, as water logging has a significantly negative effects on yield rates.

Sowing

- Seed rates of 75 kg/ha for oats and 25 kg/ha for vetch are recommended with high germination rate (above 90%). The seed rate can be increased to 90 kg/ha for oats and 30 kg/ha for vetch to provide allowance for low seed emergence.
- Both row planting and broadcasting may be used depending on the amount of land and the availability of labour. In case of row planting, the spacing between rows should be 15 cm and oat and vetch should be sown on alternate rows (i.e. oats on the first row, vetch on the second one, etc.). It is a good practice to divide the seeds between the total number of rows before starting to sow to make sure the distribution is even.
- When broadcast method is used, the seeds need to be thoroughly mixed to ensure a uniform distribution of the two forages.

Harvesting

- The ideal moment for harvesting oat-vetch is when the forage has reached the bloom stage.
- The forage can be conserved in the form of hay or used as green feed mixed with other locally available feed resources.

Benefits

- The oat-vetch mixture provides high biomass yields (approximately 12 tonnes of dry matter per hectare) of good nutritional quality (crude protein of 15.5% and metabolizable energy of 10 MJ/kg of dry matter. The mixture provides a balanced diet in terms of protein and energy.

The forage can be used as a very good supplement for lactating cows, fattening sheep or beef cattle. Mixing about 30% of the oat-vetch mixture with about 70% of locally available feeds, such as crop residues, improves utilization and animal productivity.

Milk yields of lactating cows consuming crop residue based diets have increased by more than 50% when supplemented, on a daily basis, with approximately 2 kg of dry matter of oat-vetch mixture.

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Through action research and development partnerships, Africa RISING will create opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The three projects are led by the International Institute of Tropical Agriculture (in West Africa and East and Southern Africa) and the International Livestock Research Institute (in the Ethiopian Highlands). The International Food Policy Research Institute leads an associated project on monitoring, evaluation and impact assessment.

Contact: Melkamu Bezabih(ILRI); Kindu Mekonnen(ILRI); Aberra Adie(ILRI); Peter Thorne(ILRI)

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