



DOVE
ASSOCIATES

Horticultural Consultants

Weggs Farm

Common Road

Dickleburgh, DISS

Norfolk IP21 4PJ

Tel: 01379 741200

Fax: 01379 741800

Email: info@dovebugs.co.uk

www.dovebugs.co.uk

Information

Sudan Grass

The effects of green manures on soil borne pests and diseases are the result of several interacting mechanisms. These mechanisms occur in the environment of the soil where it is often difficult to measure specific biological processes. In the past green manure and cover crops were often combined with crop rotation to renew crop vigour. The use of rape on cereals, for example, has proved not only to be beneficial in breaking the cereal rotation, but it also provides beneficial effects on soil organisms.

To produce a good green manure crop the more top that is produced the better, as long as it does not affect the ability to establish the following crop. *Sorghum bicolor* (Sudan grass) is a frost sensitive, warm season, erect annual grass. It can quite easily grow 2-2½ m and produces large amounts of dry matter by September if it's drilled in the May/June period.

When seeded at high rates, Sudan grass makes an effective smother crop. In addition to smothering weeds the entire plant contains chemical compounds that suppress some weeds. Sudan grass roots secrete sorgoleone, a chemical that inhibits weed growth, and it is quite active even at low concentrations.

Sorghum requires a minimum air temperature of 15°C (60°F) and the optimum temperatures are 25-32°C (75-90°F). Although maximum growth occurs with ample moisture, Sudan grass is drought tolerant and can tolerate mowing, high pH, salinity and partial shade.

The amount of dry matter Sudan grass is capable of producing depends on how long it is grown before either mowing or killing, but 4-5 tons per hectare is usual. The nitrogen content is low, in the range of 1-2% of dry matter, although the total amount of N accumulated in plant residues may be considerable due to the C:N ratio. A soil pH of 6-7 is optimum for growth. When used as a cover crop to be subsequently incorporated a seed sowing rate of 60kg/ha (55lb/ac) can either be broadcast and harrowed in or drilled. A lower rate of around 45kg/ha (40lb/ac) can be achieved with drilling. The seed needs to be incorporated to 25mm (1") or deeper if the soil is particularly dry at the time of drilling.

The seed should be drilled when the soil temperature is 15°C (60°F) during the period May–August. Around 100kg of nitrogen is required per hectare of the crop and should be applied in a minimum of 2 applications of 50kg/ha each. The first application should be after sowing and the second one mid-season after cutting back.

The Sudan grass should be flail mown when it reaches 1-1½m high (3-4ft). This will increase the root matter 5-8 times and encourage deeper penetration. It also increases the amount of cover crop and improves the sterilising effect.

Prior to incorporation the Sudan grass should be mown with a forage harvester then immediately incorporated into the soil by ploughing to maximise the effect. Breakdown in the soil of the larger stem sections of Sudan Grass is quite slow and if left too long surface weed growth can become a problem. If the weather is very dry at the time of incorporation the soil should be irrigated immediately to ensure the full sterilising effect (the grass releases hydrogen cyanide).

Read the label before you buy – use pesticides safely

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Suppliers of Sorghum bicolor

1. W.A Church (Bures), Suffolk. CO8 5JQ
T: (01787) 227654
F: (01787) 228325
E: info@churchofbures.co.uk
W: www.churchofbures.co.uk
2. Dunns Seeds
Dunns (Long Sutton) Ltd
Phoenix Lodge
Winters Lane
Long Sutton
Spalding
Lincs. PE12 9BE
T: (01406) 362141
3. Sinclair McGill
Advanta Seeds Ltd
Sleaford
Lincs. NG34 7HA
T: (01529) 304511
4. Daltons Seeds
Dalmark Group
Dalmark House
Eye
Peterborough. PE6 7UD
T: (01733) 222391
5. Boston Seeds
47 Spilsby Road
Boston. PE21 9NX
T: (01205) 358964
6. Frontier Agriculture Ltd
Witham St Hughs
Lincoln. LN6 9TN
T: (01522) 556100

Deliveries may take some time to arrive on the nursery because of the growing location of the seed, so make sure you allow for this when you order and want to sow.

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