



## The Growing & Use of *Crotalaria Juncea* / Sunn Hemp

Sunn Hemp is not a weed because it sets very low levels of seed, and it has no hard-seededness (ie. No dormancy).

It will only produce seed in tropical to sub-tropical areas. It must have warm nights, preferably over

25°C for maximum seed production. Therefore unless you are in areas like this, you will not be able to produce enough seed to be worth harvesting. You will only be able to grow it as a green manure cover crop.

### SEED DEPTH:

2-5cm depth is adequate with 2-3cm being the most ideal. However, it is a strong germinator and will come up from below 5cm depth if you need to place it deeper onto moisture.

### ROW SPACING:

30cm-1m rows. For anyone trying to bulk up seed, sow on the 1m row spacings. In hot conditions with reasonable moisture levels, at 1m row spacings it will soon cover the inter-row space with its branches. Overseas trials showed best yields occur at low seed rates and wide row spacings, making the plants branch more and having more moisture to fill seed.

### WHEN TO SOW:

There are no hard and fast measurements yet of what temperature it needs to germinate.

Experience has shown that it has germinated quickly when average soil temperatures were 14°C.

However, once it emerged, it did not grow very much until the weather warmed up. It loves hot weather (30-40°C days). Measuring the soil temperature at 9am at 3-5cm depth gives a close approximation to the average soil temperature for the day. It is best to sow when the temperature is on a rising trend.

#### SOIL TYPES AND PH:

This is a robust species. It will grow happily from 5.0-8.5pH (in CaCl<sub>2</sub>), and on any soil type. Down as low as pH 4.5 should be OK. If anything, American experience has shown it does not like the very high pH (alkaline) soils as much as it does the acidic soils.

#### FERTILISERS:

Sunn Hemp is not fussy with nutrition as it grows well on low fertility soils. However, until you gain a few years experience growing it, apply ~10-20kg/P/ha with the seed. Preferably use an MAP based fertiliser or any phosphate fertiliser that is low in nitrogen. If potassium is marginal, add 50-80kg muriate of potash before sowing (top-dressed or drilled away from the seed).

#### PESTS:

It is quite tolerate to many pests because it out grows them, except soon after emergence in cool conditions. Every bug under the sun seems to like it until the true leaves appear. Not many insects seem to like the true leaves. Applying 1L Cosmos (500g/L Fipronil) per tonne of seed will help on some hard shelled insects and locusts, but before sowing, use something in the knockdown herbicide like 200ml Chlorpyrifos (500g/L) + 75ml Cypermethrin (200g/L) to clear the deck before the seed emerges. If Bryobia mites are a problem, use 150ml Lemat (290g/L omethoate) instead of Chlorpyrifos. However, it is a successful cover crop around the world because it does not suffer many serious diseases or pests.

#### AS A COVER CROP:

Maximum nitrogen production occurs by or just before flowering (~40-50 days from sowing in hot weather). No one in other countries lets it go much past this point before killing it as the stems become too fibrous. Average nitrogen concentration is ~5% when young, but falls back to about 1.75% at flowering. Many crops around the world have produced >150kgN/ha from 10t/ha biomass, so it is a very valuable input of nitrogen to the soil, as well as organic matter.

**Effects on Livestock:** Seeds and stems/leaves of Sunn Hemp are non-toxic in laboratory tests and feeding trials. Other species of *Crotalaria* contain poisonous alkaloids and, under certain conditions, can be toxic to animals, but not with *Crotalaria juncea*. Stock may find this variety unpalatable, but should not suffer health problems. As always though, be cautious and do not put hungry stock into it.

© Seeds for Africa Limited

**No part of this document may be reproduced, copied or distributed without the express written permission of the Directors of Seeds for Africa Limited.**

[www.seedsforafrica.co.za](http://www.seedsforafrica.co.za)

*Seeds for Africa*