

CROP PRODUCTION SUMMARY

SUNN HEMP

Crotalaria juncea L.
Sub-Tropical annual legume
Member of Fabaceae family



History

This crop originated in India and Pakistan and is one of the earliest recorded fiber crops in history.

Climate Needs

This plant tolerates mean annual temperatures between 47°F and 82°F and is killed by temperatures less than 28°F. Sunn Hemp should receive a minimum of 1 inch of moisture per week for maximum growth, however this crop is drought tolerant.

Risk

Although Sunn Hemp has minimal risks there are a few to keep in mind. If planted in waterlogged soils, sunn hemp is susceptible to root rot. Deer, hogs, and rabbits may browse in fields of sunn hemp, disrupting or destroying the crop. Sunn hemp can become woody and challenging to terminate if grown for too long.

Sunn Hemp Description

Sunn Hemp is not true hemp. It is in the legume family and can grow up to 3-9 ft and has deep yellow terminal flowers and light brown pods that are small and inflated. It is possible for volunteer seed from field loss to become weedy or invasive the following year. Sunn Hemp helps suppress weeds that germinate after planting. This may be beneficial for difficult-to-control or herbicide-resistant weed species.

Soil

Sunn Hemp tolerates soil pH from 5.0 - 8.4 with moderate alkalinity and a temperature of 65°F. Soil acidity below pH 5 does not harm the plant but will reduce growth. Sunn Hemp needs good drainage and does better on heavy clay or salinity.

Seeding

Seed around the same time as corn or a little later. Sunn Hemp can be broadcast or drilled and covered ½ to 1 inch deep into a well-prepared, weed-free seedbed. Inoculation with cowpea-type rhizobia bacteria is essential if the soil has not been inoculated before.

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Highlights

Sunn hemp is a sub-tropical annual legume used as a cover crop to improve soil properties, reduce soil erosion, conserve soil water, and recycle plant nutrients. This legume produces over 5,000 lbs of biomass and 100 lbs of nitrogen and potash per acre. This plant can grow up to 3-9 ft and has deep yellow terminal flowers and light brown pods that are small and inflated. Seeding should be done around the same time as corn or a little later. Sunn Hemp should be dry and self-defoliated when ready to harvest. The market for this crop is small; however, due to its nitrogen-fixing, it is worth growing and selling the seeds.

Fertility

This plant can grow on infertile soil, but production is best in improved soil with good soil fertility.

Weed Control

Cultivating as needed is the best way to control weeds. Fields should be weed-free at harvest to prevent contamination of crops. Sunn Hemp is sensitive to herbicides, particularly 2,4-D.

Pest & Disease Management

Sunn Hemp produces a compound that is toxic to soybean cyst nematodes. Powdery mildew and root and stem rot have been the most significant disease reports. The bella moth are the most harmful insects.

Harvest

It is best to harvest when seeds rattle in the pod, about five months from planting. Sunn Hemp should be dry and self-defoliated when ready to harvest. Initially, set the concave clearance at $\frac{1}{8}$ to $\frac{3}{16}$ inches and the cylinder speed at 1150 to 1200 RPM. Seed yields range from 500 to 2200 lbs per acre. Threshing is possible when dry but difficult before Sunn Hemp fully matures.

Cleaning & Storage

Seeds can be cleaned with standard commercial seed-cleaning equipment. Dry seed to below 10% moisture and store it at low temperatures and humidity.

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Rating any crop's production opportunity or risk is subjective and depends on the region where the crop is to be raised. Genetic advancement for pathogen tolerance and adverse weather condition has been more significant for popular, high seed sales crops such as corn and soybeans. The below table lists some of the issues of producing specific crops and helps guide your process of selecting your cropping choice.

Average rating: 3.5

Issue	1	2	3	4	5
Seed availability			X		
Scouting requirements				X	
Drought tolerance				X	
Waterlogged soil tolerance	X				
Disease pressure				X	
Wildlife concerns	X				
Yield swings			X		
Harvest ability			X		
Field loss				X	
Market demand		X			
Soil regeneration					X
Residue value					X
Storability					X
Benefit for following crop					X

1- very low 2- low 3- average 4- moderately high 5- very high

Seed availability – Price, lead time, and required lot size are consideration for these issues

Scouting requirements – What frequency does someone need to look at the crop?

Drought tolerance – Rainfall patterns are requiring crops go longer between rainfall events.

Waterlogged soil tolerance – Rainfall events tend to produce higher volumes than historical averages.

Disease pressure – Plant stress has increased with the rise of daytime temperatures

Wildlife concerns – Deer, rabbits, voles, resident geese, and others can destroy fragile crops.

Yield swings – How predictable will the income be when this crop goes to market?

Harvest ability – Do we need plans B & C if adverse conditions affect the harvest?

Field loss – How much will be left in the field and can we monetize field loss?

Market demand – Does this crop have an elastic delivery window and are there timing penalties?

Profitability – Is there potential for higher margins needed for a shrinking land base?

Soil regeneration – Does this crop support the next crop?

Residue value – What remains after the target crop? Can we monetize the residue?

Storability – How long can we hold this crop? Will quality be challenging to maintain?