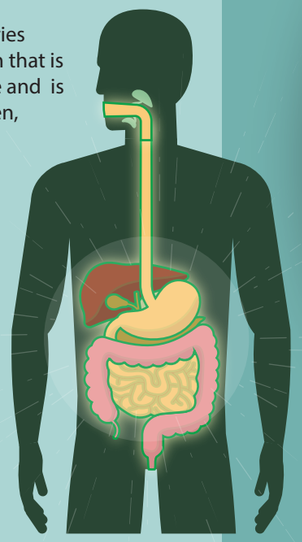
Multiple Benefits from Mung Bean Production

1 Nutritional benefits

Mung bean carries globulin protein that is easily digestible and is good for children, sick and older people.



Mung beans can be used to make veggie burgers

Mung bean can be made into value-added products including:

- Dalmoth
- Daal
- Bhujiya
- Salad
- Burger
- Sprout

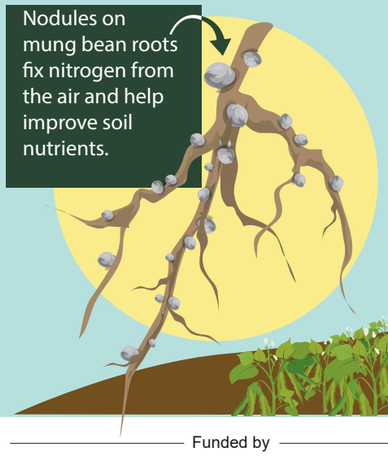
Mung Daal

Mung bean sprouts

Baby food with mung bean as an ingredient

2 Soil health improvement

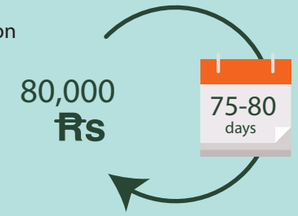
Nodules on mung bean roots fix nitrogen from the air and help improve soil nutrients.



Incorporating mung biomass after harvest into the soil will improve soil health and can increase productivity of the next crop.

3 Source of income

Cultivating mung bean on 1 bigha can generate a return of up to NPR 80,000 in just 75 to 80 days.



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Mung Bean Production

Tips on mung bean production in Nepal:

75 - 80 days

Mung bean is a short duration crop, which is commonly grown after the harvest of winter crops such as mustard, potato, wheat, lentil and chickpea, when most of fields remain fallow before rice cultivation.

Major benefits

1 Nutritional benefits

Mung bean contains easily digestible globulin protein with

24% protein in whole grain

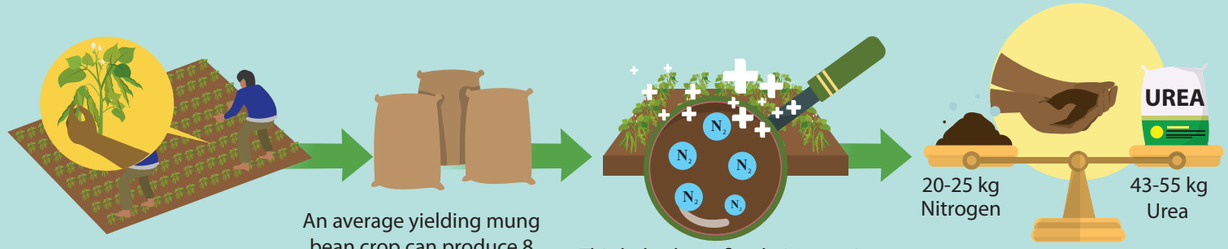
28% protein in sprouts

Whole grain Daal along with value added products like Dalmoth, Bhujeya, sprouts, salads, Haluwa and veggie burgers are good food for all ages.

2 Soil improvement

Incorporating mung bean biomass after pod picking can help to improve soil quality and nitrogen content.

Fixes nitrogen equivalent to 20-25 kg N per bigha. This is equivalent to 43-55 kg of urea fertilizer.



Pod picking

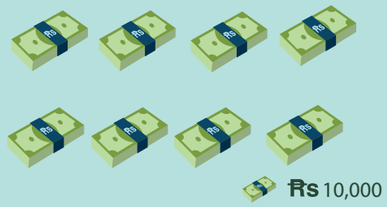
An average yielding mung bean crop can produce 8 tons per 30 khatta of biomass that can be plowed into the soil

This helps keep fixed nitrogen in the soil and can improve nitrogen for the next crop

Compared with Urea

3 Source of income

Mung bean can provide cash income of



₹s 80,000

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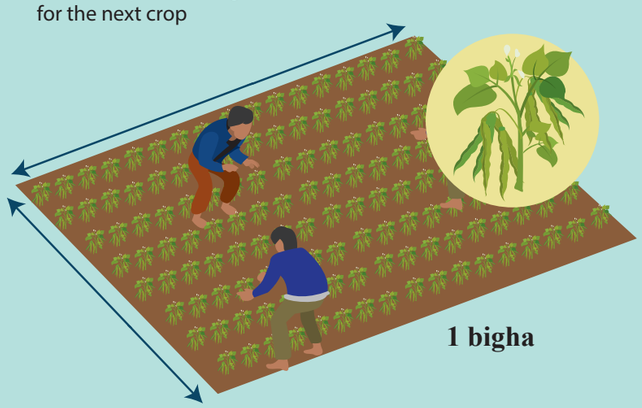

From 20 katthas (1 bigha) to the farmers

Mung Bean Cultivation

Mung bean can be grown from Terai to mid hills

1 Land selection

Land should be :

- Fertile
- Irrigated with a good drainage system
- Preferably light soil

2 Variety

Registered	Pre-released
✓ Kalyan	✓ Bari Mung
✓ Pratiksha	✓ SML 668
✓ Pratigya	✓ Pant Mung 5

3 Seed rate and sowing date

Seed rate:

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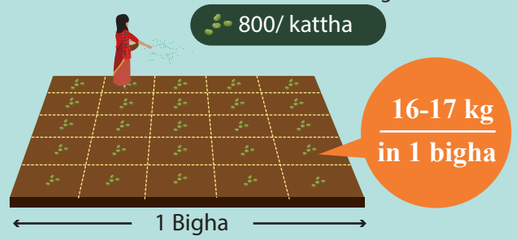
Seed drill

600 gm/ kattha

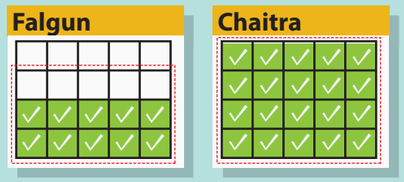
Manual broadcasting

800/ kattha



Sowing date:

Spring cultivation



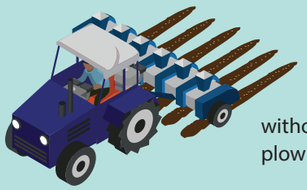
Falgun 2nd week to Chaitra last
(March to mid-April)

Cultivation technology

After ploughing land and levelling, mung bean can be broadcasted by :

- Broadcasted by hand

- Seed and Fertilizer spreader
- Direct Drilling: Zero till seed drill



without prior plowing

Notes

Rhizobium inoculation treatment can increase nodulation and helps in nitrogen fixation in the soil.

There must be enough moisture in the soil at the time of sowing.

Sowing in lines reduces required seed rates. It also helps make weeding and harvest easier

Sowing depth should be 3- 5cm depth. In dryer soils, sow seed closer to 5 cm deep. In more moist soils, sow it closer to 3 cm deep

4 Nutrient management

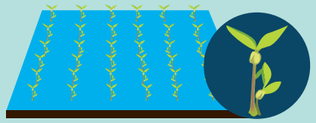
Per Kattha, mung bean can benefit from applying

- ☑ 200 to 300 kg Compost or manure
- ☑ 3 kg DAP
- ☑ 1.5 kg MoP

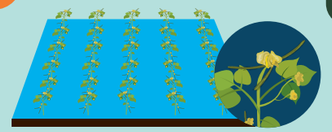
Incorporate organic matter or fertilizer into the soil before sowing

5 Irrigation:

1st 15 to 20 days after germination.



2nd During flowering.



Note:

Stop irrigation after all pods have formed to ensure even ripening and good yields.

6 Insect and disease management

Spiders eat pests

Wasps lay their eggs in pests - this kills the pest

Bugs eat pest eggs and adults

Beneficial insects and spiders will help to reduce pests. Only consider insecticides after you consult with an extension agent, CIMMYT, or the Nepal Agricultural Research Council.

It is important to be sure the risk of yield and income loss from pests is higher than the cost of insecticide.

Insecticides can harm beneficial insects, so spray with caution.

Be sure that people and children are not near fields when spraying.

Never apply insecticides without consulting an extension agent and wearing a mask, gloves, apron and boots.

Yellow mosaic virus, leaf rust and leaf blight are the major diseases of mung bean. If these diseases can be seen in the field, then it is recommended to uproot infected plants and burn them or bury them under the soil.

If leaf spot is observed at high levels, you can consider use of a fungicide such as Bavistin 70 WP (Carbendazim) at 2 g/liter. Prior to spraying, consult with an extension agent.

⚠ Never spray insecticides near flowering time

Only spray before flowering. Spraying after flowering is less efficient and may not protect yield.

7 Pod harvesting, production and storage

After pods furn from green to grey color, they should be picked and then should be dried for three to five days before threshing.

50-60 days — 1st — 1st picking of ripe pods starts 50 to 60 days after sowing.

70 days — 2nd — 2nd picking starts 70 days after sowing.

Improved farming of mung will produce 30 to 40 kg grain per Kattha (600 to 800 kg per bigha).

Grain moisture should be around 12 to 14%. This means that the grain should have a crunchy sound when you bite into it before it is ready for storage

The Cereal Systems Initiative for South Asia (CSISA) was established in 2009. The project is led by the International Maize and Wheat Improvement Center (CIMMYT) and implemented jointly with the International Food Policy Research Institute (IFPRI) and the International Rice Research Institute (IRRI), and liaising with national partners. The content and opinions in this infographic do not necessarily reflect the views the Bill and Melinda Gates Foundation, USAID, or the United States Government, and shall not be used for advertising or product endorsement purposes. Correct citation: Khanal, N.P., Sapkota, M., Bhatta, M., Dhungana, H., Darai, R., Kafle, S., Krupnik, T.J., 2019. Multiple benefits from Mungbean Production. CIMMYT and the CSISA project. Kathmandu, Nepal.
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