

Chinese Mustard Green Growing Lesson



Techniques of growing Chinese mustard green

1) Preparing the soil

☺ First, plough or hoe soil and dry soil up for ten to fifteen days.



☺ After that plough

and scarify the soil for two to three times, in deep two-three Toeks (20-30 cm).

2) Preparing the bed of Chinese Mustard Green

○ Make the bed of the width, one metre, the length one is according to possibility.



○ Prepare the height of the bed is twenty to

twenty-five centimetres in the dry season, twenty-five to thirty centimetres in the rainy season.

3) Growing Chinese Mustard Green

❖ First, dry seed with sunlight for thirty to forty minutes.



❖ Soak seed in the water with wrapping cloth for three to four hours and then take it out of the water and keep hidden for one night with closing lid.



❖ Prepare the soil in the seedbed well.



❖ Take and mix 4 shares of sand with chinese mustard green seed, and then take that seed to sow in the seedbed equally.



❖ Sprinkle short straw in the seedbed, and then use water on that straw immediately. In addition, we can make the roof to cover, too.



❖ When the young chinese mustard green is 15 days old, we can take the young chinese mustard green to plant or when it has three or four leaves.



❖ Stop watering chinese mustard green for one day before taking.



❖ Have to pull young chinese mustard green immediately after watering.


❖ A clump of chinese mustard green to another one is spaced out fifteen to twenty centimetres (as average is sixteen to twenty trunks a square metre).



❖ Between the bed (path for walking) can be spaced out thirty to forty centimetres.

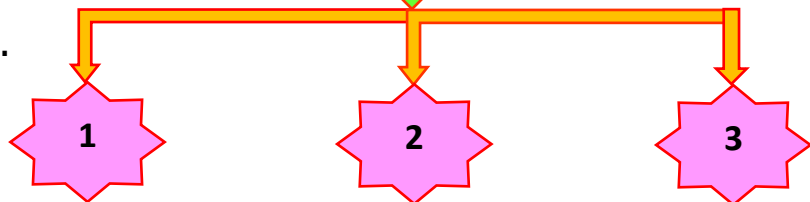



Another way:

 For sowing chinese mustard green seed on the ground directly after keeping hidden for one night, have to



take it to sow in the bed only one time; sprinkle short straw, use water for chinese mustard green for 3 times, in the morning, in the afternoon and in the evening if the soil is dried.



 If young chinese mustard green is very compact, have to pull out or can take it to plant at the free place.



4) Taking care

❖ After planting chinese mustard green for 10 days, we have to pull weeds, stick into the ground repeatedly at its clump and put organic fertilizer.



❖ Watch small bugs very day.

❖ Use water enough and daily for chinese mustard green.

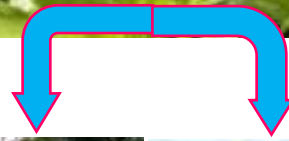


❖ If see any young chinese mustard green to become yellow or fade, have to pull it out or bury it into the ground.



5) Harvesting

➤ Stop watering chinese mustard green for one day before harvesting.



➤ When chinese mustard green is forty-five to fifty days, we can harvest the result (chinese mustard green sows seed directly)



➤ When chinese mustard green is fifty-sixty days, we can harvest its result (young chinese mustard green which plants)



➤ An average yield is from sixteen to eighteen tons a hectare.

🌊🌊🌊 **Thank You!** 🌊🌊🌊

Pumpkin Growing Lesson



Techniques of growing pumpkin

1)-Selecting seed

- Hybrid seed (seed has many fruits)
- Simple seed: it is a kind of seeds that we can keep for growing continuously or next time.
- Pumpkin seed has many kinds such as Kaek (crow) pumpkin, Phnorng pumpkin, and Troo or Hab pumpkin, etc.



1. [Kaek Pumpkin](#) (name of pumpkin in Khmer): It has a dark peel with round and small fruit and its meat is thick and dark yellow. In addition, it has round and small seed or is called **Phnom pumpkin**. This pumpkin seed endures in the rainy season.



2. Phnorng Pumpkin (name of pumpkin in Khmer): It has a grey peel with a small fruit, a big stem, and a small trunk. This pumpkin seed is grown on the high land.



3. Troo or Hab pumpkin (name of pumpkin in Khmer): It has a big leaf, a big trunk and a long stem; as for its meat is yellow with much fibber. This pumpkin is grown on the low land.



2)-Preparing the soil

☺ Plough or hoe the soil and dry soil up for ten to fifteen days.

☺ Plough and scarify soil for 2-3 times, and then harrow to break soil well.



3)-Preparing the bed or hole

❖ Raising the bed to pile the bed of pumpkin can be made, width= 2-3 metres by ploughing up earth only one time.

❖ Height of the bed is 15-30 centimetres according to seasons.



❖ In general, the pumpkin growing can be hoed as a hole to grow.

❖ When the pumpkin appears its shoots, we can pile up the soil of the bed.



4)-Growing

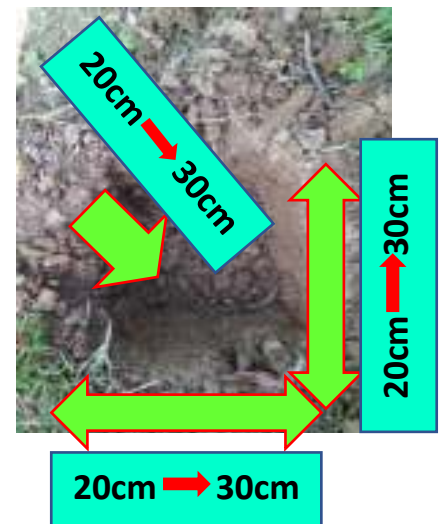
○ Wash pumpkin seed and then dry it up with sunlight for 3 hours.



○ Wrap pumpkin seed with the cloth and soak that pumpkin seed in the water for four to five hours, and then keep hidden it for one night in the bucket with closing lid.



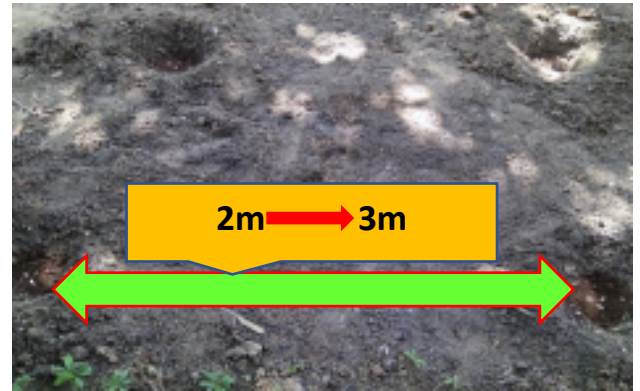
○ Make a hole for a size of a hole, two to three Toeks (twenty to thirty centimetres) and in deep, two to three Toeks (twenty to thirty centimetres).



○ Make a hole, from a clump of pumpkin to another one is spaced out 120 to 150 centimetres.



- A chest of pumpkin crop (path for walking) is spaced out 2 to 3 metres.



- Have to use natural fertilizer or compost at the bottom of the hole.

- Use 3-4 seeds to grow for a hole in deep 3 centimetres.

- We grow 4565 holes= 4.5 kg of seeds for a hectare.



5)-Scarifying the soil

📖 Scarify soil, pull weeds, and pile up earth at a clump of pumpkin. We make it when pumpkin growing up for fifteen to twenty days.



📖 Check and pull out some trunks of young pumpkin if it has too many.



6)-Taking care

🐛 Check small bugs (insects) or other diseases on the pumpkin crop.



💧 Use water for pumpkin crop wetly from growing it until harvesting its result.



7)-Harvesting

➤ Harvesting results of pumpkin, it depends on the kind of seeds, some seed is 80-85 days old, and some is 95-110 days old; during this time, we can harvest their results.



➤ We have to check on the demand of the market, too.



8)-Keeping seed

✓ We can keep pumpkin seed if it is not hybrid seed.

✓ Have to check and take any fruits which are good ripe and no mark of insect making a hole.



✓ We also keep very ripe pumpkin fruit and then split it to take seeds out.



✓ Wash the pumpkin seed and dry it up with sunlight, and



then pour it into the bottle or glass or wrap with cloth to keep well.



🌈🌈🌈 Thank You! 🌈🌈🌈

String Bean growing Lesson



1. Introduction

String Bean is a kind of crops that farmers like to grow and eat because it is delicious and has many substances for supporting our organs such as water substance, proteins, lipid, carbohydrate (CABOUN EDRAT), and Calcium.



2. Seed selecting

Selecting seed is the first important factors for growing to limit yields and demanding of the market. The important factors which have to choose as followings:

1-Seed is from clear sources
(domestic or hybrid seed)



2-Age of seed is right.

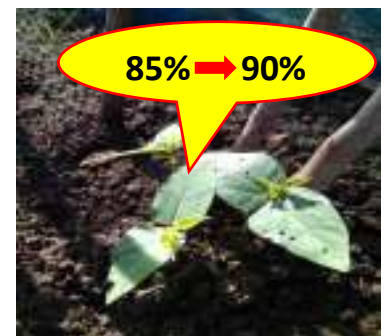
3- Seed can germinate well from 85 - 90 per cent.

4- Seed is pure and good.

5- Seed is resistant with the weather, insect, and diseases.

6- Hybrid seed cannot keep growing continuously.

85% → 90%



3. Techniques of growing string bean

3.1. Preparing the soil

1) Hoe or plough and dry the soil up for 10 to 15 days and then do it for 2 to 3 time.

2) Hoe or plough the soil 20 to 25 centimetres in deep,

hit the soil to become finely and then pick up the grass so that makes the soil clean.

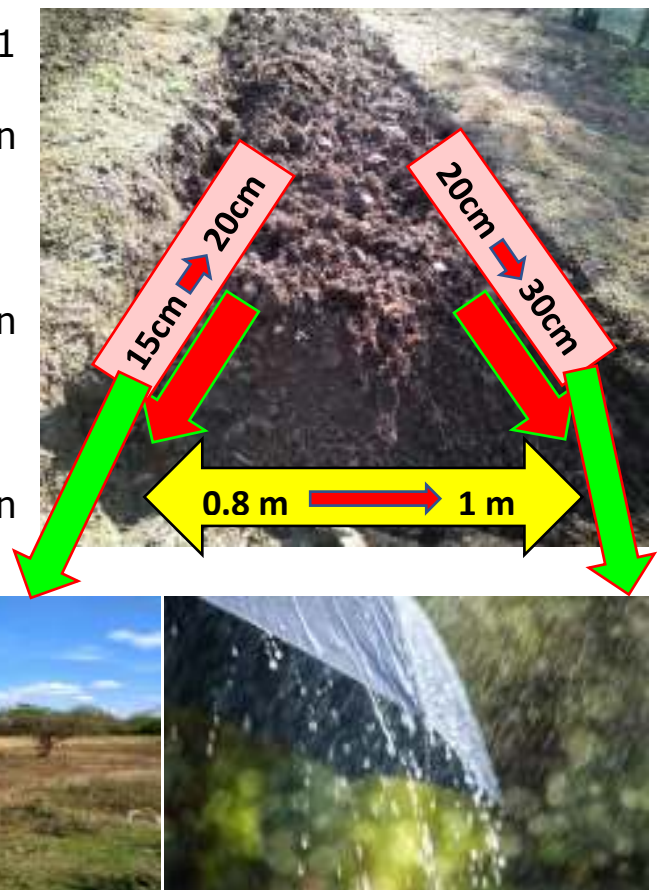


3.2. Raising the ridge

1) Make ridge width from 0.8 to 1 metre, and ridge length is depending on possibility.

2) Raise height of ridge in dry season from 15 to 20 centimetres.

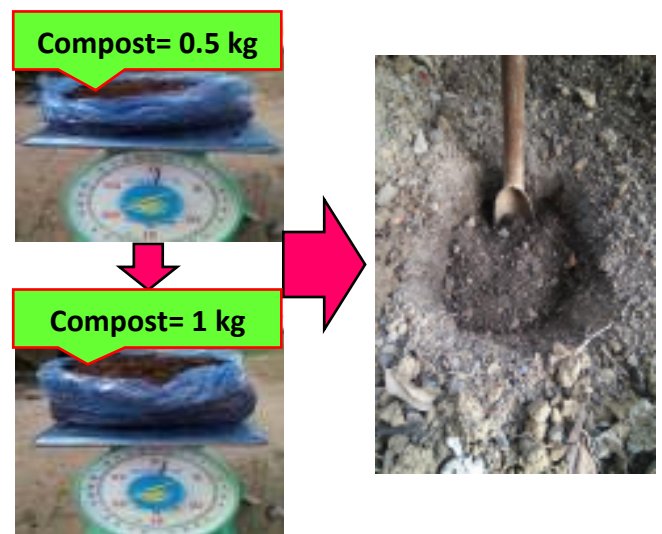
3) Raise height of ridge in rainy season from 20 to 30 centimetres.



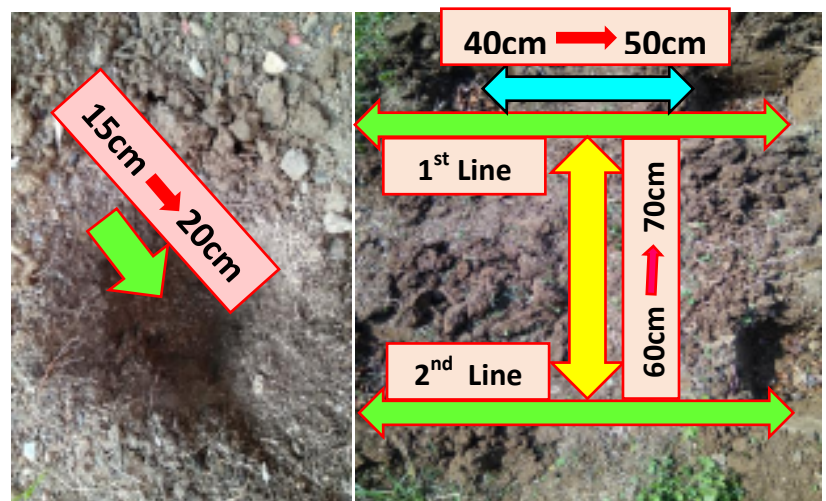
4) A ridge to another one is spaced out 30 centimetres.



5) Use 0.5 to 1 kilogram of compost a hole and mix together, soil and compost, and then rake it evenly.



6) Dig holes fifteen (15) to twenty (20) centimetres in deep as two lines in between a clump to another from forty (40) to fifty (50) centimetres



and in between line from sixty (60) to seventy (70) centimetres.

3.3. How to grow

A. Growing seed directly

❖ Dry seed with sunlight for 1-2 hours and then soak in the clean water for 3-4 hours



❖ Have to keep hidden seed for 1 night so that seed is quick to germinate.



❖ Use 0.5 kilogram of the compost for a hole.



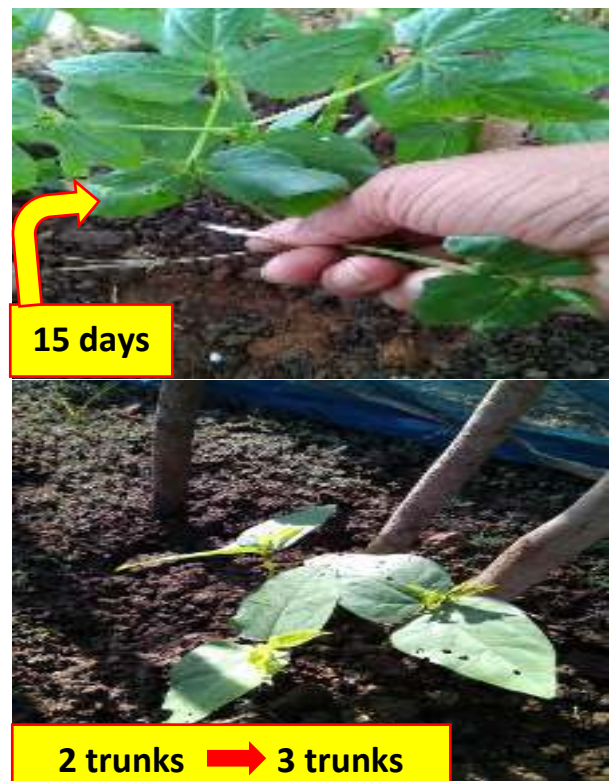
❖ Put 2 to 3 string bean seeds to grow in a hole with 3 cm in deep.



❖ Sprinkle the fertile soil and debris of dried straw a bit on the hole and then water string bean wetly in the morning and in the evening.



❖ After growing for fifteen days, we have to pull some weak young string bean out and keep strong and good young string bean for two to three trunks for a clump.



B. Germinating young string bean

Young string bean is germinated by using plastic bag or bowl make from banana leaves with filling mixture soil as followings:

- ❖ 50 per cent of compost or dung animal fertilizer.
- ❖ 25 per cent of the termite soil or fertile soil.
- ❖ 25 per cent of the finely sand.



❖ Put 2 to 3 string bean seeds into the bag or bowls of banana leaves and then water wetly (the bottom of bag or banana-leaf bowl is water-leaky).

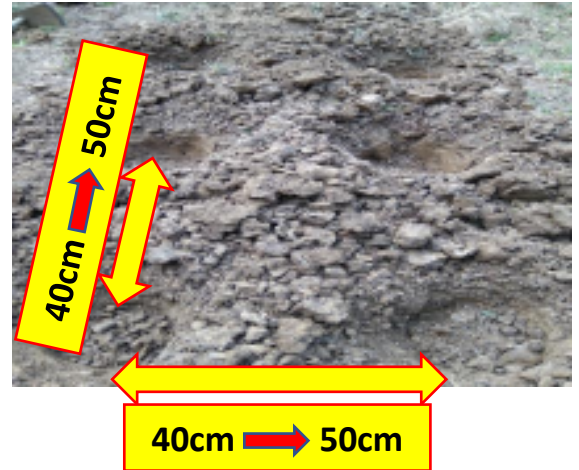


❖ After germinating for 6 to 7 days, string bean has 2 to 3 leaves, can take it to grow.



C. Growing young string bean

- Dig holes in 2 lines in between a hole from 40 to 50 centimetres and in between lines from 60 to 70 centimetres.



- Grow 1 to 2 trunks of young string bean for a hole.



- Take debris of short straw to cover on base of string bean after growing is finished so that protect moisture and then water it wetly and immediately.



4. Taking care of string bean

4.1. Eliminating grass, scarifying soil, and pile up the bed of string bean

☺ The 1st time: Clean grass after growing string bean for 10 to 12 days.



☺ The 2nd time: Scarify the soil after cleaning grass in the 1st time for 15 days or young string bean is 25 days old.



☺ The 3rd time: Do it when string bean is 40 days old that means just cut off the grass even to the ground or pull weeds including their roots, no need to scarify the soil at base of string bean.



4.2. Using fertilizer

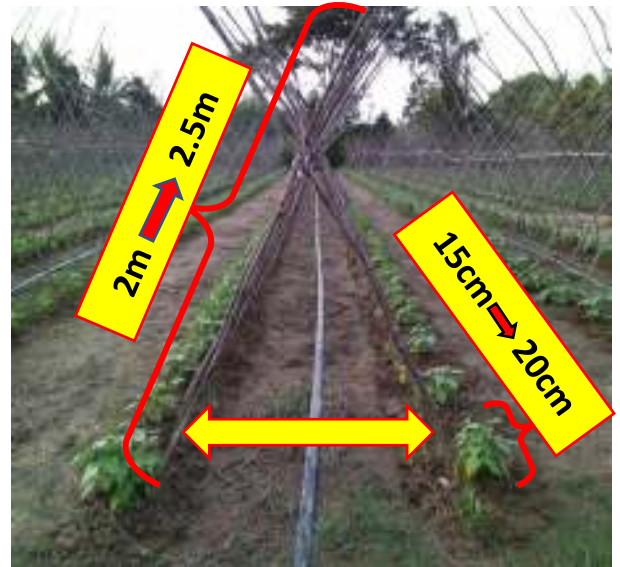
Use 0.5 kilogram to 1 kilogram of compost fertilizer for putting at bottom of a hole.



4.3. Making trellis and cutting branches

☺ Take young trees or bamboo 2 to 2.5 metres in length to make trellis for string bean climbing.

☺ Push trellis in the ground with face to face when young string bean having growth, 4 to 5 leaves with 15 to 20 centimetres in height.



☺ After growing for 20 to 25 days or when string bean budding suckers and have to tie suckers with its trunks or tie to the trellis.



☺ Have to cut and clean small branches and keep main branches when string bean is 20 to 25 days.



☺ Cut off the old leaves with disease so that reduce contagiousness of diseases, reduce the shelter of insects, and can suck the nutrient from the ground.



4.4. Watering string bean

☺ String bean needs water daily but does not need water accumulating in the field.

☺ We have to water string bean for 2 times a day in the morning and in the evening.



☺ Irrigate water into the ridge of string bean for 2 times a week according to situation of the ground and weather.



☺ Have to check the soil whether having good moisture especially when string bean starts flowering until harvest the result.



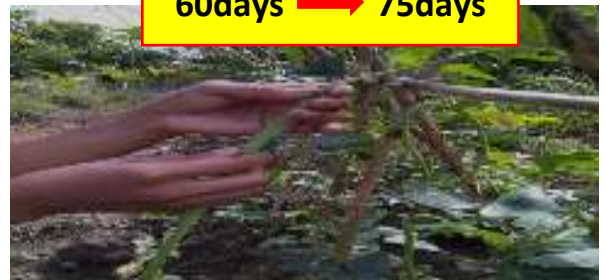
5. Harvesting

❖ We can harvest when string bean is 60 to 75 days old by counting from 1st day of growing to the day of harvesting but according to the kinds of string bean seed.

❖ Harvesting is to do it in the afternoon and we can harvest from 15 to 18 times in string bean growing season.

❖ Do not pinch (pick up) fruit under the branch stem (on the kernel of string bean) because it cannot keep string bean for a long time or quick to swell and should not cut including branch stems because will make it unable to flower any more.

❖ Pick up fruits softly and put in the shade because it can sweat and become yellow and it causes infection.



15times → 18 times



6. Keeping seed

📖 Do not keep seed (string bean fruit) that is near the ground is to keep any seed high from the ground, long and good panicle (fruit) without disease and destroying from other bugs.

📖 Select panicles of string bean in the 2nd to 4th generation and keep only 2 or 3 panicles a trunk of string bean and keep it to get ripe and dry on the its trunk, and then pick it up and dry it up.



📖 Split it so that make seed out and take seed to dry with sunlight again for two to three hours.



📖 Pour those seeds into the bottle (keep it 1/3 of bottle) or cloth bags and tie or close and keep in the safe place and there is enough air for exit and entry.



📖 Dry up string bean seed for once 3 or 4 months, once 2 to 3 hours so that seed has good health to keep growing for a long time in case that seed is very dried in rate of moisture from 12 to 13 per cent.



🌈🌈🌈 Thank You! 🌈🌈🌈

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REFERENCES

📖 Chinese Mustard Green and String Bean Growing Lesson are extracted from The Technique Book of Small-Scale Farming (*prepared by Department of Farming Testing and Catch Crop, and mixed measure program for national crop management of General Department of Agriculture in August 2013; website: www.tssdcambodia.org*)

📖 Pumpkin is extracted from Information Center and Agricultural Document (*Ministry of Agriculture, forestry and fishery, MAFF*)