

o If possible, it is better to spread straw in between two pits, resulting in further reduction of water evaporation. Mulching also inhibits weed growth and ensures good plant growth and fruit quality.

Cost and benefit analysis:

This technique has low capital and infrastructural requirements.

Cost and benefit analysis for 100 pits of pumpkin shows a total production cost of Rs.30,000 (approx), a total income of Rs.85000(approx) and a net profit of Rs 55000 (approx).

Advantages:

- o The fallow sandy soil can be cultivated and the total cultivable area can be increased.
- o It supplements the income of the local communities and helps in alleviation of poverty. It ensures nutrition security.
- o It involves low capital and infrastructural requirements.



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Vegetable Cultivation in Sandy bed

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Vegetable cultivation in sandy soil or sandy bed involves techniques whereby vegetables can be grown in soil which is sandy and unfit for any cultivation. Sandy soil cultivation can be practiced in the Char areas (mid-channel bars of the river Brahmaputra and its tributaries are locally referred to as a Char area). The soil in the Char areas is sandy and rendered unfit for cultivation after the flood waters recede. Unfertile, fallow land can be brought under cultivation, thereby increasing the total cultivable land area.

Vegetables suitable for cultivation using this technique:

Any type of crop which can be grown in a pit like sweet gourd, ridge gourd, pointed gourd, bottle gourd, bitter gourd, country bean, water melon, cucumber etc, is suitable for cultivation in sandy soil.



Time of pit preparation:

Just after the rainy season, when water recedes from the Char areas, it is suitable for pit preparation in sandy soil.

Size of pit:

- ❖ 1m X 1m X 1m, considering soil texture and structure.
- ❖ Pit to pit and line to line distance is 2.5-3.00m.

Methods of cultivation:

- There are two methods of cultivation
- ❖ Pit method
 - ❖ Gunny bag method.

Pit method:

In Char areas, where the sand layer depth is less than one meter, pit method is suitable. Due to less depth of sand, it is easy to get to the cultivable soil at the lower portion. A pit is filled up with cow dung and loamy soil in the ratio of 1:1.



Gunny bag method:

In Char areas, where the sand layer depth is above one meter and it is difficult to reach the cultivable soil below the sand layer, gunny bag method is used. A gunny bag is filled with cow dung and loamy soil in the ratio of 1:1 and put into a previously prepared pit.



Pits can be prepared according to the square, rectangular and hexagonal systems. Using the hexagonal system, it is possible to prepare 15% additional pits in the same area.

Method of sowing seeds or transplanting seedlings:

- o 3/4 seeds of the selected crop can be sown directly per pit.

- o After germination, 2/3 healthy seedlings are kept per pit and additional seedlings are uprooted.

- o In case of delay, it is possible to transplant healthy seedlings directly into the pits by early production of seedlings in the seedbed.

- o It is possible to produce seedlings on a floating bed during floods when the land is submerged and to transplant the seedlings into the pits when the flood waters recede. This minimizes planting time.

Irrigation:

- o Irrigation is needed considering the soil moisture after sowing of seeds or transplanting of seedlings.

- o Where water source is far away or leaching of water is high, a pot is set over each pit. A pore is made under the pot to ensure the desired water flow for the plant. The pot is filled up with water when it is empty.

Fertilizer management/application:

- o 1kg of quick compost or 2kgs of pit compost needs to be applied to the pit when the seedling age is 25-30 days.

- o 1kg of quick compost or 2kgs of pit compost needs to be applied to the pit in the second round, when the seedling age is 50-60 days.

- o Irrigation is needed after applying fertilizer.

Mulching:

Sandy soil loses moisture much faster than heavier soils. Hence mulching is required.

- o Each pit is covered with straw or any other dry organic matter to reduce water evaporation.