

Scientific Cultivation of Zucchini

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SUMMARY

Zucchini (*Cucurbita pepo* L.) is a vital exotic vegetable, known for its bushy growth and succession of fruits in various colours. Rich in nutrients like Vitamins C and A, it is consumed in its immature stage and is prized for its contribution to heart health. Cultivation demands well-drained, loamy soil with a pH of 6.5-7.5 and temperatures between 28 °C to 32 °C for optimal growth. Land preparation involves ploughing and incorporation of farmyard manure. Seeds are sown in ridges and furrows with a seed rate of 4-5kg/ha. Frequent irrigation is essential, preferably through drip irrigation to avoid fungal diseases. Weeding and pre-emergence herbicide applications are necessary. Harvesting starts 50-55 days after sowing when fruits are 4-6 inches long, with one plant yielding around 40 fruits. Common pests and diseases such as thrips, fruit flies, and mildews are managed through cultural and chemical methods.

INTRODUCTION

Zucchini (*Cucurbita pepo* L.) is one of the important exotic vegetable as the only bush type cucurbit for human consumption known by different names such as vegetable marrow and field pumpkin. It belongs to the family Cucurbitaceae. The chromosome number is $2n=2x=40$. The plant has bushy growth habit with shortened internodes and can set fruits in closed succession. Fruits are in yellow, light green and dark green colours. It is rich in nutrients, Vitamin C and A, carbohydrates, proteins and low in energy content about 17kcal/100g. (Mohammad *et al.*, 2011). This vegetable is consumed in immature stage when they are 6 to 8 inches long. It is used as a salad vegetable and improve heart health.



Soil and Climate: Soil should be well drained and rich in organic matter, loamy soils are best for cultivation. The pH should be 6.5-7.5. Early seed sowing should be done in light soils and for heavy soils late sowing should be done. The temperature can affect the rate of germination and the ideal temperature for growth and development is 28 °C to 32 °C (Castro *et al.*, 2011). It requires cooler nights and warmer day to get quality fruits. Seed germination starts at 25-28°C . It cannot withstand frost conditions. Acidic and alkaline soils with high salt concentration are unsuitable.

Land Preparation: Land should be ploughed for 4-5 times and made to fine tilth. Full dose of FYM @ 15t/ha is applied at the time of final land preparation, then land is again ploughed for proper incorporation of FYM into the soil.

Ridges and Furrows are prepared at a distance of 60 cm apart. Seeds are sown in ridges and furrows method.

Sowing Time and Seed Rate: Zucchini is commercially propagated by seeds. Seed are sown in the last week of February or first week of March at a distance of 100 cm between the rows and 60 cm between the plants. Seed are sown in a depth of 2.5-4 cm apart sow 1-2 seeds per hill. The seed rate for zucchini is 4-5kg/ha.



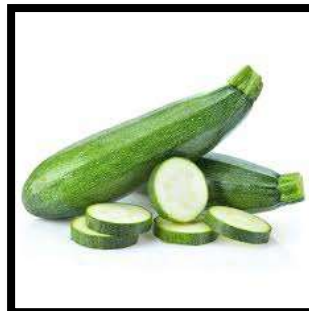
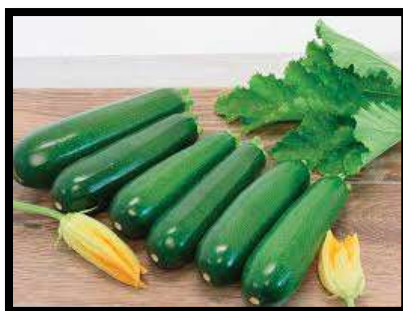
Irrigation: Zucchini requires frequent irrigation to produce the large fruits. Soil should be moist. Immediate irrigation should be given for 3 days after sowing, thereafter once in a week in summer and in rainy as per requirement. Drip irrigation is suitable for zucchini cultivation. Flood and overhead irrigation may be avoided as it leads to fungal diseases.

Manures and Fertilizers: Apply the 15-20t of FYM at the time of final land preparation. Fertilizer dose of each of 50-65 kg of NPK/ha is recommended.

Intercultural Operations: Zucchini needs frequent weeding. Weeding should be done 10-15days interval. Spray Pre-emergence Fluchloralin @ 1.2 kg ai/ha.

Harvesting and Yield: Zucchini harvesting can be done after 50-55 days after sowing, when fruits are in immature stage, 4 to 6 inches in length. One plant can produce approximately 40 fruits. For every two days harvesting can be done, regular harvesting leads to rapid growth of the fruits.

Yield : 18-20 t/ha.



Pest and Disease Management:

Thrips: Stunted leaves, terminal shoots and scarred malformation fruits are symptoms of plant. It can be controlled by spraying ethion 50EC @ 1ml, Use neem cake.

Fruit fly: Fruit become wilt and fall on the ground. It can be controlled by eliminating and destroying the diseased fruits. Apply Neem cake @ 250kg/ha right away after germination, during flowering and 10days after flowering.

Red Pumpkin Beetle: Red Pumpkin Beetles present in the soil and feed on the stem and underground roots of the host plants. Manually collect and destroy the pest mechanically.

Downy Mildew and Powdery Mildew: Symptom will be yellow colour dots on the upper surface of leaves along with greyish colour mould. The lower surface of leaves develops a downy, light grey to purple mildew during moisture conditions. On stems, leaves white patches are present that turned into grey colour and later leaves turned into defoliation. It can be controlled by avoiding over irrigation.

Cucumber Mosaic Virus: It can be controlled by spraying paraffin 1-2%

CONCLUSION

Zucchini, a nutritious and versatile vegetable, thrives in well-drained, loamy soil with ample organic matter. Its cultivation involves meticulous land preparation, proper irrigation, and timely application of manures and fertilizers. Frequent weeding and pest control measures are essential for optimal yield. Harvesting should be

done regularly, and attention to disease management ensures healthy plants. Overall, growers can find that zucchini produces a high yield of high-quality fruits when given the proper care.

REFERENCES

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