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Class : 12th
Unit : 1 (Sexual Reproduction)
Chapter : Development of Seed and fruit
Topic : Parthenocarpy
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Parthenocarpy :

(Gk. parthenos - virgin ; karpos - fruit)
Production and development of seedless fruit is called parthenocarpy.

- Mechanism of obtaining parthenocarpic fruits is becoming increasingly important because of three reasons:

(i) Seeds are irritants during eating of the fruit.

(ii) Processing of fruits by food industry requires the removal of seeds which is quite difficult. Therefore, seedless fruits are preferred by food industry.

(iii) There is an increasing tendency to grow fruit bearing plants inside green houses. Reliable insect pollinators cannot be ensured in each and every case.

- Parthenocarpy is of two types, vegetative and stimulative.

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- In vegetative parthenocarpy, the seedless fruits can develop even without the stimulus of pollination, e.g., Pear, Fig etc.
- In stimulative parthenocarpy, the stimulus of pollination is required without the actual process of fertilization or seed setting, e.g., Grapes.
- A number of fruit varieties have been altered genetically to undergo parthenocarpic development.
- Hormonal treatment enables flowers to develop seedless fruits without the stimulus of pollination.
- The two commonly used hormones in parthenocarpy are auxins and gibberelling.
- Tomato produces seedless fruits if treated with auxin while grape-vine forms seedless fruits on being treated with gibberellin.
- Gibberellins are especially useful for inducing parthenocarpy in pomes.