CASE

Curriculum for Agricultural Science Education

Principles of Agricultural Science – Plant

Pollination and Fertilization

Unit 7 – Plant Reproduction
Lesson 7.2 Pollination and Dispersion

If We Have Pollen…

pollination can occur.

Pollination is the transfer of pollen from the anther to the stigma of a flower.

Types of Pollination

Some plants use different methods to achieve pollination:

- **Self-pollination**: Transfer of pollen from the anther to the stigmas of the same flower or to flowers on the same plant.
- **Cross Pollination**: Transfer of pollen between two plants that are not of identical genetic material.

Mechanisms Used for Pollen Transfer

- Vertebrates
- Insects
- Water
- Wind

Attracting Pollinators

The flower uses important features to attract animals and especially insects to help the pollination process:

- Bright petal colors
- Fragrance
- **Nectar**

Fertilization

Fertilization is the union of pollen with the ovule to produce seeds.

Once pollen grains are transferred to the stigma:

1. Pollen grains move through the pollen tube to the ovule.
2. A pollen **gamete** unites with the egg cell **gamete** in the ovule.
3. Ovary swells and forms the fruit.

The Next Step

Following fertilization, division of the zygote will continue the cell replication process.

References

Herren, R. V., & Donahue, R. L. (2000). *Delmar's agriscience dictionary with searchable CD-ROM*. Albany, NY: Delmar.

Parker, R. (2004). *Introduction to plant science* (Rev. ed.). Clifton Park, NY: Delmar.

Schooley, J. (1997). *Introduction to botany*. Albany, NY: Delmar Publishers.

Toogood, A. R. (Ed.). (1999). *American Horticultural Society plant propagation: The fully illustrated plant-by-plant manual of practical techniques*. New York, NY: Dorling Kindersley.