POST-FERTILIZATION OVULE ABORTION IN *VIGNA RADIATA* (L) WILCZEK

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Abstract: *Vigna radiata* (L.) Wilczek is a promising and widely used pulse crop in India. Unfortunately, the yield of this crop has been low. One of the reasons for this low yield has been the occurrence of as much as 50 per cent ovule abortion. The position of the abortive ovules varies from the first to the fourteenth position in the pod. To gain an insight into the cause(s) that lead to ovule abortion, developmental changes in ovules have been studied at light and ultramicroscopic level. Besides, behaviour of chromosomes in two sex mother cells i.e. embryo-sac mother cell and pollen mother cell has also been studied. Although the chromosomal studies in female sex mother cells did not reveal any abnormality in the behaviour of chromosomes thus ruling out its involvement in inducing abortion, the detailed ultrastructural studies revealed ovule abortion in *V. radiata* to be taking place at proembryo stage. Degeneration of cellular components particularly in integumentary cells was a common feature observed in these ovules. This study reveals that besides the endosperm failure, which is generally regarded as the main cause of ovule abortion, changes in integumentary cells may also lead to abortion of ovules.

Keywords: *Vigna radiata,* Ovule abortion, TEM, Autophagy, Integument degeneration, Female meiosis, Myelin bodies

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