

# Proceedings of the Iowa Academy of Science

---

Volume 47 | Annual Issue

Article 23

---

1940

## Flower Bud Development in Some Varieties of Tulip

John E. Sass  
*Iowa State College*

Copyright © Copyright 1940 by the Iowa Academy of Science, Inc.  
Follow this and additional works at: <https://scholarworks.uni.edu/pias>

---

### Recommended Citation

Sass, John E. (1940) "Flower Bud Development in Some Varieties of Tulip," *Proceedings of the Iowa Academy of Science*: Vol. 47: No. 1 , Article 23.  
Available at: <https://scholarworks.uni.edu/pias/vol47/iss1/23>

This Research is brought to you for free and open access by UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

each of which lays down a series of leaf primordia. Each growing point becomes encircled by its laterally overlapping young leaves. The procambium strands of the two young axes converge into the stele of the mesocotyl (first internode), which is common to the two potential stems.

BOTANY AND AGRONOMY DEPARTMENTS,  
IOWA STATE COLLEGE,  
AMES, IOWA.

---

## FLOWER BUD DEVELOPMENT IN SOME VARIETIES OF TULIP

JOHN E. SASS

A study is being made of the time of initiation and development of the flower bud in three classes of tulips. All floral organs are present in November. The flower bud is twice as large in the earliest (Mendel) class than in the latest (Darwin) class, but the cytological condition in the anthers and ovules is strikingly similar; pollen is in the late quartet to early microspore stage, ovules are very small primordia with no evidence of integuments or megaporoocyte. Expansion of flower bud size is in proportion to earliness, pollen development is virtually parallel, and megagametophyte development is slightly more rapid in the earliest class.

BOTANY DEPARTMENT,  
IOWA STATE COLLEGE,  
AMES, IOWA.

---

## PHOTOPERIODIC AND LIGHT INTENSITY EFFECTS ON EXTERNAL STRUCTURES OF CERTAIN MEMBERS OF THE SOLANACEAE

MILDRED NELSON

Plants grown (*Capsicum frutescens*, *Salvia splendens*, *Lycopersicon pimpinellifolium*, *Lycopersicon esculentum*) show some striking differences when compared with control plants grown under normal conditions. Some of these differences are: 1. Amount of vegetative foliage produced. 2. Size of vegetative shoots. 3. Rate of