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A "Twin-Embryo" Abnormality in Maize

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ECOLOGICAL AND FLORISTIC ASPECTS OF CLAY
AND PALO ALTO COUNTIES

ADA HAYDEN

A survey of the native flora of Clay and Palo Alto Counties with reference to plants useful to waterfowl includes the plants useful for food, for nesting materials and for cover. The plants are listed systematically as well as referred to associations. The range of distribution for flora of the state has been extended and some plants apparently new to the state have been recorded.

IOWA STATE COLLEGE,
DEPARTMENT OF BOTANY,
AMES, IOWA.

A CHIMERIC TULIP

KARL A. STILES

An unusual yellow Cottage tulip which was collected by Norman Stookey in the spring of 1934 was given to the author. All the petals of this tulip were yellow except one which was one-half yellow and one-half red.

Inasmuch as the bulb from which this tulip developed has not produced another such chimeric flower it appears probable that it is due to a somatic mutation or a somatic non-disjunction of the chromosomes.

BIOLOGY DEPARTMENT,
COE COLLEGE,
CEDAR RAPIDS, IOWA.

A "TWIN-EMBRYO" ABNORMALITY IN MAIZE

JOHN E. SASS AND GEORGE F. SPRAGUE

A mutant strain of corn obtained by ultra violet treatment has twin growing points in the embryo. The flattened emerging coleoptile is a continuous sheath, containing two distinct stem apices,

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