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Part I - Papers Presented at the 1989 Plant Science Lecture Series

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PART I

Papers Presented at the 1989 Plant Science Lecture Series

FORWARD

The first six titles in this issue of the *Journal of Iowa Academy of Science* are papers presented at the 1989 edition of the Plant Science Lecture Series held annually at Iowa State University. This lecture series focuses each year on some aspect of plant biology, and each series is composed of six to eight seminars related to a theme that is selected to be timely and related to improvement of field, forage, forest and horticultural crops.

Plant biology study is several centuries old. Until recently, however, most publications on plant development and differentiation have been of a descriptive nature. From these studies, rather good scenarios were presented on the timing and sequential events of plant development species by species. Now, however, with the knowledge of the hereditary material, DNA, and the understanding we have of the effects it exerts on the plant phenotype, it is becoming possible to describe how plant development and differentiation is controlled at the molecular and physiological levels. Ultimately, it is hoped that knowledge about genetic regulation of plant growth, development, and differentiation can be put to work for crop improvement and ultimately to producing food, feed, and fiber for human kind.

The theme for the 1989 Plant Science Lectures was "Molecular regulation of plant development and differentiation." In this series of papers, an up-to-date summary is given of the status of knowledge about this topic.

Special thanks is given to the authors of the Plant Science Lecture papers who took time out of their already full schedules to prepare these contributions.

Kenneth Frey, Coordinator
Plant Science Lectures Series