Kodachrome Slides as Aids in Teaching Crop and Weed Identification

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Training future leaders in agricultural fields to identify important crops and weeds correctly is an essential part of a crops teaching program. Positive identification of both plant and seed forms is basic to the enforcement of weed and seed laws and the certification of crop varieties. The effective use of selective herbicides depends upon their being applied to the right plants at the right time. Without the ability to recognize common plant species and varieties, vocational agriculture instructors and county agents cannot give sound advice to farmers. Farmers should be able to recognize many different species in order to buy seed intelligently and comply with laws pertaining to dissemination of harmful or noxious weeds.

Correct identification depends, first of all, upon the recognition of detailed differences in size, shape, color, texture, or structure of the plant or seed. The set of inherent characteristics observed must then be associated with the proper name of the variety or species to which they are peculiar. Students fail to see distinguishing differences between plants or seeds until their powers of observation have been developed. If they are to attain the desired level of ability in the limited time available, the most efficient methods must be employed in the classroom.

To increase the effectiveness of teaching identification in the crops courses at the University of Nebraska, plants and seeds have been photographed on 35-mm Kodachrome film and the transparencies mounted in the form of 2-inch by 2-inch slides. These have been used in the original classroom presentation of plants and seeds to be identified and for subsequent review of detailed identifying characteristics.

Without doubt the best way of learning to identify plants is by studying them in their natural habitat where they can be seen in different stages and forms of growth. Unfortunately this is practically impossible during the normal school year. In the past the usual means of preserving plants for classroom use has been by pressing them, a process which preserves many details but largely destroys the natural appearance of the green plant. When Kodachrome slides are used in the original classroom presentation, students get a more nearly correct impression of the normal appearance of plants than when pressed specimens are used. If the projected image is large enough, detailed characteristics can be pointed out, thus eliminating any need for blackboard diagrams. The efficiency with which students use pressed plants for study is improved by their having obtained from slides an idea of what to look for and where to find it.

The principal problem in teaching students to identify seeds of different species and varieties is to train them to see detail. To untrained students, wheat is wheat, if it is recognized at all. Characteristics peculiar to the different market classes, though obvious to the expert, are not observed by beginners.

Formerly each student was provided with a hand lens so that he could try to observe characteristics of actual seeds as diagrammed and described by the instructor.

The use of slides projected on a screen is superior to the old approach in several respects. Attention is focused on one place. All are observing a specimen chosen because it demonstrates typical features. The psychological advantage of looking at an enlarged view of actual seeds in natural color is tremendous when compared...