DISTRIBUTION OF ANTHOCYAN PIGMENTS IN RICE VARIETIES

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INTRODUCTION

Anthocyan pigments occur quite commonly in the stems, leaves, leaf-sheaths, floral organs, and other parts of the rice plant. Those parts of the rice plant which are colored, due to the presence of anthocyan pigments, may be red, reddish-purple, purple, or purplish-black. The colors of parts of the rice plant often are used in the description and classification of varieties.

Several investigators have studied the mode of inheritance of the anthocyan pigments in rice. These studies have shown that the colors of organs in the rice plant are inherited in accordance with Mendel’s laws. The color present in a given organ may be due to the action or interaction of one, two, or three, and less often, four, genetic factors. When two or more genetic factors are involved in the production of color such factors often are found to be complementary. In fact, all colors in organs of rice which are due to anthocyan pigments, even in the simplest monohybrids, apparently are the result of the interaction of at least two genetic factors. One of these is a factor for the chromogen base and the other a factor for the particular color under observation. Often the color in several organs of the variety under investigation has been found to be inherited as a unit, as if the colors of all the organs in the group were due to the same genetic factor or factors.

Hector grouped the rices studied at Dacca, India, with respect to color as follows:

1. “Leaf-sheaths, apiculus of the glumes (apiculas of lemma and palea), and stigma coloured.”

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