

OLGA SZ.-BORSOS

Botanischer Garten der Eötvös Lorand University, Budapest, Hungary

CYTOPHOTOMETRIC STUDIES ON THE DNA CONTENTS OF
DIPLOID LOTUS SPECIES

During the summer of 1971, the author conducted cytological investigations in the laboratory of Professor W. F. Grant on 13 diploid Lotus species. The somatic chromosome number for five of the species was $2n = 14$; that of the other eight, $2n = 12$. To determine the relative DNA content of the cells a Barr and Stroud "GN2" integrating microdensitometer was used. For measuring the relative amount of DNA, root tip cells were processed by the Feulgen technique and measurements made in the telophase stage on 30 chromosome fields for each species.

For a comparison of the relative density of the DNA content from the telophase chromosomes of the 13 species, the following method was adopted. The $2n = 14$ species were compared both with each other and with the $2n = 12$ species. Therefore, each $2n = 14$ species was used as a standard and given a value of 1.0. The values for all other species were adjusted accordingly in comparison with the standard. The adjusted values for the five $2n = 14$ species ranged as follows: L. edulis 1.48 - 2.32; L. arenarius 1.49 - 2.36; L. ornithopoides 1.77-2.72; L. requienii 1.78 - 2.81; L. cytisoides 1.85 - 2.92. The absorption value of the individual $2n = 14$ chromosome Lotus species was higher than the $2n = 12$ chromosome species.

Concurrently, the individual idiograms of the five Lotus $2n = 14$ chromosome species have been completed.

Presently, the author is conducting investigations on the root anatomy of Hungarian Lotus species.