

OLGA SZ.-BORSOS

The Botanical Garden of Eötvös L. University, Budapest, Hungary

CYANOGENIC GLUCOSIDE CONTENT OF HUNGARIAN LOTUS CORNICULATUS AGG.

In 1974 and 1975 species of the Lotus corniculatus group growing wild in Hungary and eight cultivated varieties were studied quantitatively for cyanogenic glucoside. The method, which is very suitable for testing, was taken over from Dawson (1941), Grant and Sidhu (1966) and Jones (1966). Different plant organs, leaves, stems and floral parts, were tested, 1) in the fresh state, 2) after drying for 48 hours at room temperature and 3) after drying for 48 h at 110°C. The color reaction based on the picrat-method was recorded visually after 48 h incubation.

All taxa, which were examined, contained cyanoglucoside in different quantities, and gave a positive reaction for HCN. Comparing the three testing procedures the strongest reaction for HCN was given by the fresh plant material, and less so by the air-dried and over-dried at 110 C in decreasing order. A correlation was found between the chromosome number and the HCN content in agreement with Grant and Sidhu's (1966) results. The diploid species, e.g. L. tenuis and L. borbasii ($2n = 12$) do not give as strong an HCN reaction as the tetraploid L. corniculatus taxa. In the taxa of L. corniculatus agg. growing wild, the polymorphism of cyanogenesis is very significant. The HCN content in L. corniculatus var. dabasensis is considerably low, 1.5 in the fresh plant material, 4.9 in the floral parts. In the leaves and stems of two varieties of ssp. hirsutus the HCN content varied from 5.0 to 6.7, in the floral parts from 5.5 to 7.2. In the cultivated variety 5.0 - 5.8 as a mean value; in the floral parts 5.5 - 7.0 HCN values were measured. We have some observations that the HCN data measured in the autumn (September) were higher than the values measured during the summer season (July).

In 1975 investigations were extended to include the determination of HCN content in the new buds after crop cuttings.