

C H L O R O P H Y L L

The values of total chlorophyll is given in Table.

There is a positive correlation between the leaf area and total chlorophyll present in the leaves in various species of *Geranium*.

In *G. pratense* the leaf area was 5.7 cm² in February immediately after leaf emergence. The total chlorophyll (ch-a and ch-b) estimated was 0.032 mgms/gm. Gradually leaf area increased with the increase in age of the plant from 25.0 cm² in March to 57.8 cm² in June. Accordingly the amount of chlorophyll estimated in the leaves during these months showed a positive increase from 0.61 mgms/gm. (March) to 0.110 mgms/gm (June). In July no further growth was recorded and the leaf area was maximum 57.8 cm². The total chlorophyll estimated in these leaves was also maximum (0.117 mgs/gm.) senescence occurred by the end of July (phenology) (Table 24).

G. wallichianum: In the last week of March the area of leaves was 11.0 cm² and the amount of total chlorophyll was 0.060 mgms/gm. Gradually with the increasing age the leaf area also increased in April being 21.6 cm². In July 40.2 cm² and maximum in August (44.4 cm²). The total chlorophyll ranged from 0.082 mgs/gm. (April) to 0.103 mgs/gm (July). In August the chlorophyll in the leaves was 0.112 mgs/gm.

Thus there was a positive correlation between the leaf area and total amount of chlorophyll present in the leaves (Table 25).

Table 24.

Geonium pratense

Month	Leaf area cm ²	Chlorophyll mgms/gms
February	5.7	0.032
March	25.0	0.061
April	35.2	0.081
May	43.6	0.097
June	57.8	0.110
July	57.8	0.117

Table 25.

Geonium dalliikianum

Month	Leaf area cm ²	Chlorophyll mgms/gms
March	11.0	0.060
April	21.6	0.082
May	25.8	0.098
June	39.2	0.102
July	40.2	0.103
August	44.4	0.112
September	Senescence	

G. nepalense: The first leaf emerged by the end of February. The leaf area was maximum in March (5.9 cm²). The amount of chlorophyll estimated in the leaves was 0.060 mgs/gm. The leaves attained a size of 9.2 cm² in April and chlorophyll increased to 0.072 mgms/gm. In May there was a considerable increase in leaf area being 22.4 cm² gradually increasing to 28.0 cm² in August. Thence no further growth in the plants was recorded and plants entered senescence stage. The total chlorophyll estimated in leaves during these months was as follows: 0.085 mgs/gm. in May and 0.105 mgs/gm. in August (Table 26).

G. pusillum: The leaves did not attain as much size as in other species. The leaf area was 4.1 cm² to 9.5 cm², the minimum in February and maximum in June. The entire growth period ranged from January to June. The total chlorophyll estimated in the leaves was 0.047 mgs/gm. in February gradually increasing with increase in leaf area. In March the leaf area was 4.8 cm² and total chlorophyll (ch-a, ch-b) being 0.062 mgm/gm. The maximum amount of chlorophyll present in the leaves was estimated in June being 0.076 mgs/gm. and maximum size (8.8 cm²) in May (Table 27).

Table 26.

Geranium nepalense

Month	Leaf area cm ²	Chlorophyll mgms/gms
March	5.9	0.060
April	9.2	0.072
May	22.4	0.085
June	22.9	0.090
July	25.0	0.102
August	28.0	0.105
September	Senescence	

Table 27.

Geranium pusillum

Month	Leaf area cm ²	Chlorophyll mgms/gms
February	4.1	0.047
March	4.8	0.062
April	6.7	0.064
May	7.9	0.069
June	9.5	0.076
July	Senescence	