

bad soil or that which does not contain the necessary elements to constitute plant food, undrained land, in which the delicate spongioles, whose office it is to absorb the sap, in the first instance, perish; or in which various acids are generated by stagnant water, which instead of being nutritives are poisonous; lopping off branches at the wrong season, that is, either when there is not sufficient chemically changed sap returning to heal the wounds quickly, or when the sap is flowing so freely as to cause loss of vigor by its escape; destruction or loss of foliage which prevents the process of this chemical elaboration of the sap taking place to make it in the right condition to be used as nourishment.

The lesson to learn from a consideration of these facts is, obviously, that we must do all we can to keep the sap in a pure and healthy condition; 1st, by proper drainage and cultivation, 2nd, by applying such manure as we know will be essential to the growth of the tree or plant, 3rd, to do nothing which will interfere with its action, elaboration or assimilation.

There is certainly some analogy between the blood in animals and the sap in vegetables, both are their vital fluids, and the life and growth of either depend upon their purity.

G. MOORE.

Hardy Perennials.

Continued.

AQUILEGIA (Columbine). Natural Order Ranunculaceæ.



Aquilegia vulgaris

NATURAL ORDER.

A class quite indispensable to any flower-garden and adapted to ordinary garden soil. An elegant border plants, unrivalled for beauty of form and rich blending of color.

A. Canadensis. [Wild Honey suckle] 18 in., 6-7. Amer. Brilliant scarlet and yellow flowers. Very distinct.

A. chrysantha. [Golden Spurred C.] 18 in., 6-8. Colorado. Bright golden-yellow flowers with long thread-like spurs. Fragrant. One of the choicest. Elegant border plant.

A. cærulea. [Rocky Mt. C.] 1 ft., 6-8. Rocky Mountains. Very large flowers, often four inches across, with deep-blue sepals and pure white petals and long recurved spurs. A grand species for the border or base of the rockery in well-drained loam.

A. glandulosa. [Altai C.] 1 ft., 5-6. Siberia. Choice species with deep-blue sepals and pure white petals and very short spur. An interesting and rare form.

A. vulgaris. 4 ft., 6-7. Eur. Flowers varying from pure white to blue, including combinations of these colors.