

IDENTITY OF FLORAL HORMONES IN *XANTHIUM STRUMARIUM* L. AND *SILENE ARMERIA* L.

S. J. WELLENSIEK

Publication 303, Laboratorium voor Tuinbouwplantenteelt, Landbouwhogeschool,
Wageningen

LONA (1946) was the first to demonstrate that in *Xanthium* receptors of graft combinations can function as donors in newly made graftings, suggesting an autocatalytic multiplication of the floral hormone. WELLENSIEK (1966) found the same for *Silene*.

In order to investigate whether the floral hormones in *Xanthium* and *Silene* are identical, graftings between the two species were made. Remarkably enough, graftings of vegetative *Silene* receptors on generative *Xanthium* donors keep alive for some weeks and some graft union seems to have taken place. Finally the *Xanthium* stocks die and this ends the graft combination. The difficulty could be overcome by regrafting the *Silene* receptors on new vegetative *Silene* stocks, 3 to 7 weeks from the first grafting. This has resulted in some flowering *Silene* receptors under conditions where comparable control graftings never flowered. The photo illustrates the procedure.



Fig. 1. Representative plants of:
left: Vegetative *S.* grafted on generative *X.*, 2 weeks from grafting.
middle: Receptor S^{R1} of left combination, regrafted on S^{R2} 4 weeks from original grafting and photographed 4 weeks from regrafting.
right: Similar plant as in middle, 14 weeks from regrafting.

In two successive experimental series 22 regraftings were made 4 weeks from the original graftings; 11 succeeded and 3 flower. In a third series 25 regraftings, 6 or 7 weeks from the original graftings, all succeeded, some are in flower and more are likely to come. Although the numbers still are small, the fact that generative *Xanthium* can bring vegetative *Silene* receptors to flower formation stands beyond doubt. This result suggests that the floral hormones of *Xanthium* and *Silene* are identical.

REFERENCES

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