

EFFECTS OF A RANGE OF GIBBERELLIN STRUCTURES ON GROWTH OF *PISUM SATIVUM* GENOTYPES DIFFERING IN SHOOT ARCHITECTURE

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We have been studying the effects of applications of a range of differing gibberellin (GA) structures to pea genotypes whose shoots are GA deficient (*le*) and possess distinct shoot architectures. GA deficient determinate and indeterminate lines differing in the number of flowers produced on a reproductive branch (WT, *det*, *det multi* and *ultramulti*) were treated with 25 µg of GA₃, GA₁, GA₄ and two ring D-modified GAs (which are known to act as competitive inhibitors of GA 3 beta hydroxylation), 16,17-dichloro-methano-dihydroGA₅ (DiC) or the exo-enriched isomer of 16,17-dihydroGA₅ (DiHGA5) and grown under long days (LD). Plant height and axillary branch number were most affected by GA treatment. Applications of GA₃, GA₄, DiC, GA₃ plus DiC and GA₄ plus DiC were also made to the *det multi* line and the *ultramulti* line grown under short days (SD). Axillary branching increased in all treatments under SD, but GAs significantly promoted growth of the additional axillaries under short days only in the *ultramulti* line. The effects of applications of the above GAs and ring D-modified GAs on architecture, flowering and yield of these four pea lines will be discussed. Supported by NSF 9977087.