

Title: Is Flowering Of Dodder (*Cuscuta*), A Parasitic Plant, Initiated By Its Host?

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ABSTRACT

Florigen is a hormone-like signal, moving from leaf to meristem tissue via the phloem and triggers flowering. Strong evidence indicates that the FT protein is florigen. It is known that dodder can non-selectively take up phloem-mobile proteins from the host; in some cases dodder has been observed to flower simultaneously with the host. We hypothesize that (1) dodder can take up host-derived FT protein, (2) the host-derived FT protein can trigger flowering in dodder, (3) therefore, functional FT gene is not likely conserved in dodder. Photoperiod trials (7h, 12h and 17h day length) were conducted to detect if dodder flowering depends on the host, using soybean (short day plant) and alfalfa (long day plant); degenerate primers, based on the conserved regions of FT protein from 9 different species, were used as a strategy to detect the FT gene in dodder. The preliminary results suggested that dodder on alfalfa can get flower under any photoperiod treatment; however, dodder on soybean flowered late under 17h photoperiod. DNA sequence analysis suggested that the amplified product by using degenerate primer was not related to the FT gene. Alternative ways to test the hypothesis are proposed in this poster.