**Proliferative arrest in *Pisum sativum***

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Flowering plants strategically adjust their reproductive timing to enhance the success of their progeny. Monocarpic plants, which undergo a single reproductive cycle before senescence and death, precisely regulate the initiation and termination of flowering. The end of flowering, referred to as proliferative arrest (PA), involves the cessation of inflorescence meristem activity, an evolutionary adaptation aimed at optimizing resource allocation for seed production and progeny viability [1,2]. Although factors influencing proliferative arrest were identified in several monocarpic species decades ago, recent comprehensive studies in Arabidopsis have examined its regulation through physiology, hormone dynamics, and genetic factors [1,2]. However, these studies are currently limited to Arabidopsis, highlighting the need to extend research to other monocarpic species to propose universal mechanisms.

This study investigates proliferative arrest in *Pisum sativum*, using available Arabidopsis studies as a comparative framework. We quantitatively assessed the influence of fruits/seeds on proliferative arrest, examined the positional effects of fruits/seeds on inflorescence meristem behavior, and analyzed the transcriptomic changes in the meristem associated with its arrested state. Our results demonstrate a high conservation of the factors inducing proliferative arrest in both pea and Arabidopsis. Nonetheless, the observed differences emphasize the necessity for similar investigations in other species to fully elucidate the general mechanisms governing this process.

***References:***

[1] Ware A. et al, 2020. Auxin export from proximal fruits drives arrest in temporally competent inflorescences, Nat. Plants, vol. 6 p. 699-707.

[2] Balanzà V. et al, 2023. Flowering also has to end: knowns and unknowns of reproductive arrest in monocarpic plants, J. Exp. Bot., vol. 74 no. 14, p. 3951-3960.