Supplementary Materials

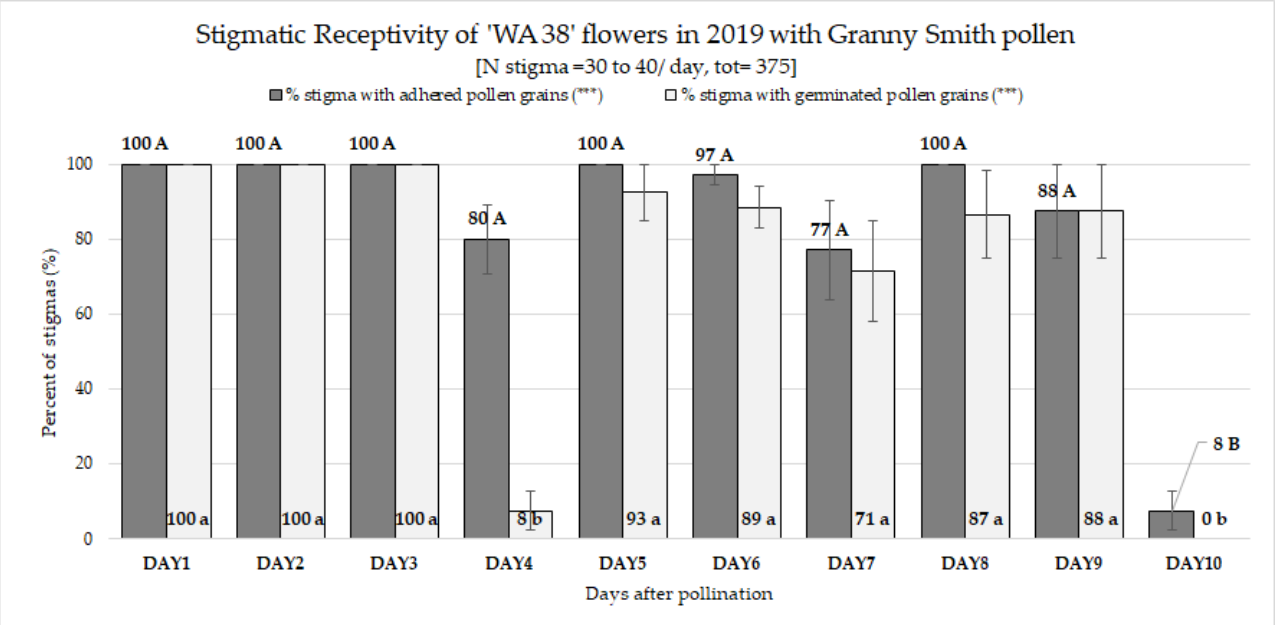


Figure S1: Stigmatic receptivity of 'WA 38' flowers (N=8) in 2019. Flowers were cross-pollinated daily for up to ten days with 'Granny Smith' pollen. Flowers were harvested 24 hours after pollination and analyzed for adhered and germinated pollen grains. Proportion of stigmas (N stigmas ranging from 30 to 40 for each time point) with adhered and with germinated pollen for each of the time points (from Day 1 to Day 10) is presented as the average percentage of stigmas with adhered and germinated pollen grains. Error bars indicate means ± standard error.

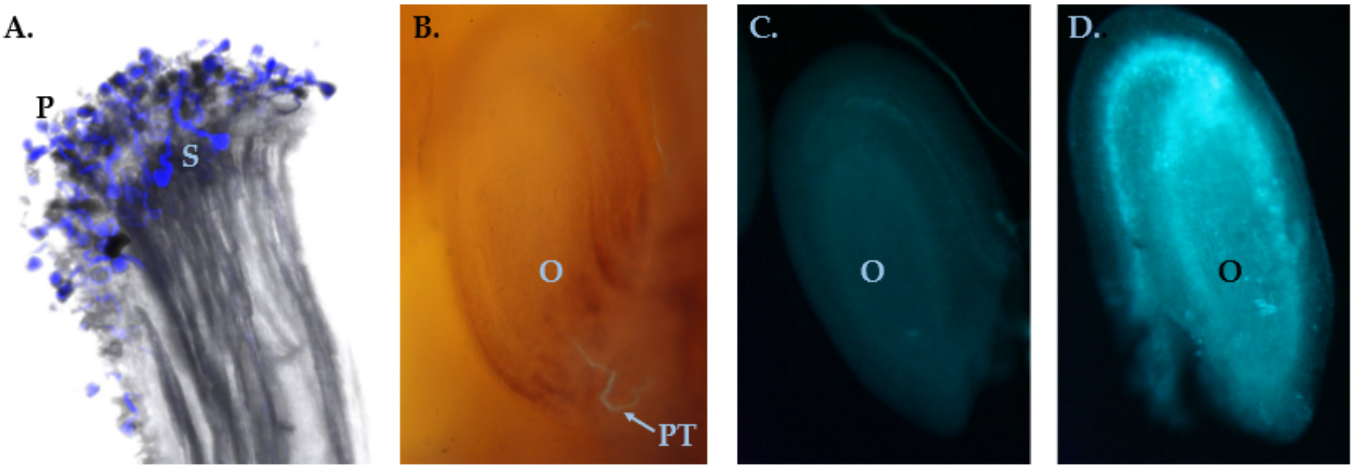


Figure S2: Microscopy approaches to determine the effective pollination period (EPP) in 'WA 38' flowers. A. Composite image of germinating 'Granny Smith' pollen grains (P) adhering to the surface of a 'WA 38' stigma (S). Fluorescence of aniline blue-stained pollen structures is colored blue and layered over the grayscale image. B. Composite image of an aniline blue-stained 'Granny Smith' pollen tube (PT) entering a 'WA 38' ovule (O). A fluorescence micrograph highlighting the pollen tube was layered over a brightfield micrograph to enable visualization of both structures. C. A non-fluorescent aniline blue-stained 'WA 38' ovule (O) scored as "viable". D. A fluorescent aniline blue-stained 'WA 38' ovule (O) scored as "non-viable".

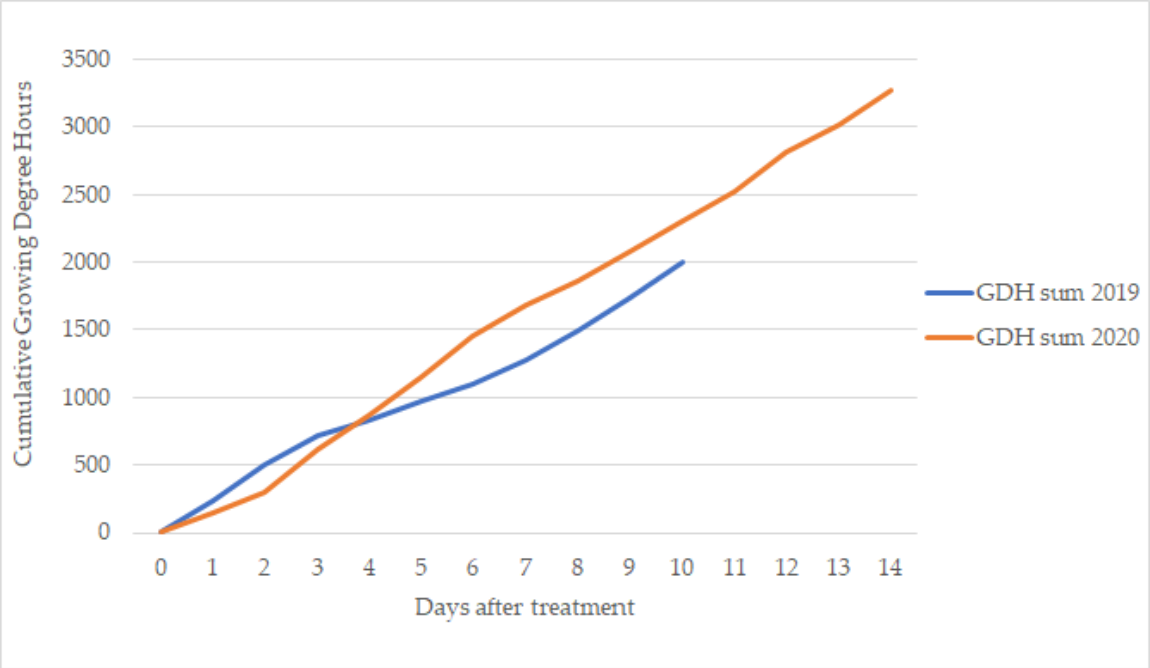


Figure S3: Line graph showing the trend of cumulative growing degree hours (GDH) as a function of days after Table 2019. and 2020) presented in this study. "Treatment" is defined as the emasculation, pollination and isolation of flowers allotted for the pollen tube growth experiment (par. 4.1.2), the emasculation and isolation of flowers utilized for the ovule longevity assessment (par. 4.1.3), or the first pollination in the series of 10 consecutive days of pollination for the stigmatic receptivity experiment (par. 4.1.1).