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Self Pollinating Tobacco

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Works for me

dx.doi.org/10.17504/protocols.io.bubynspw

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Realizing Increased Photosynthetic Efficiency (RIPE)

ABSTRACT

Protocol for self pollination of tobacco. Validated on Petite Havana and Samsun varieties.

DOI

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PROTOCOL CITATION

Lynn Doran 2021. Self Pollinating Tobacco. **protocols.io**
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KEYWORDS

Tobacco, pollination, selfing, self-pollination, seed production

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IMAGE ATTRIBUTION

Lynn Doran

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49240

GUIDELINES

This protocol is only for self pollination of tobacco where the the pollinating plant will provide both the maternal and paternal genetics to the seed. It is not appropriate for hybrid breeding or cross pollination of tobacco.

N. tabacum is a primarily self pollinating plant but has shown out-crossing rates up to 19% (Paul et al, 1995).

References:

Paul, E., Capiou, K., Jacobs, M., & Dunwell, J. (1995). A Study of Gene Dispersal Via Pollen in *Nicotiana tabacum* Using Introduced Genetic Markers. *Journal of Applied Ecology*, 32(4), 875-882. [doi:10.2307/2404827](https://doi.org/10.2307/2404827)

MATERIALS TEXT

- 10 x 16 Wicketed Crystal Clear Micro Perforated Bags 30 holes/psi, [Prism Pak MP101630](#)
- 6" White Paper Twist Ties 2,000/cs, [Prism Pak 4891](#)

BEFORE STARTING

Grow tobacco to flowering in the appropriate conditions.

- 1 Grow tobacco plants to flowering.



- 2 Choose an inflorescence to self pollinate. Tobacco tillers and will generate multiple inflorescences per plant. Any inflorescence will produce seed but the primary inflorescence will generate the most and the highest quality seed.
- 3 Trim off lower florets of the chose inflorescence to create a clean section of stalk to attach the pollination bag to.



- 4 Remove any flowers that have started to open by pinching them off at their base. If you are unsure if a flower has opened too far or not, remove it.

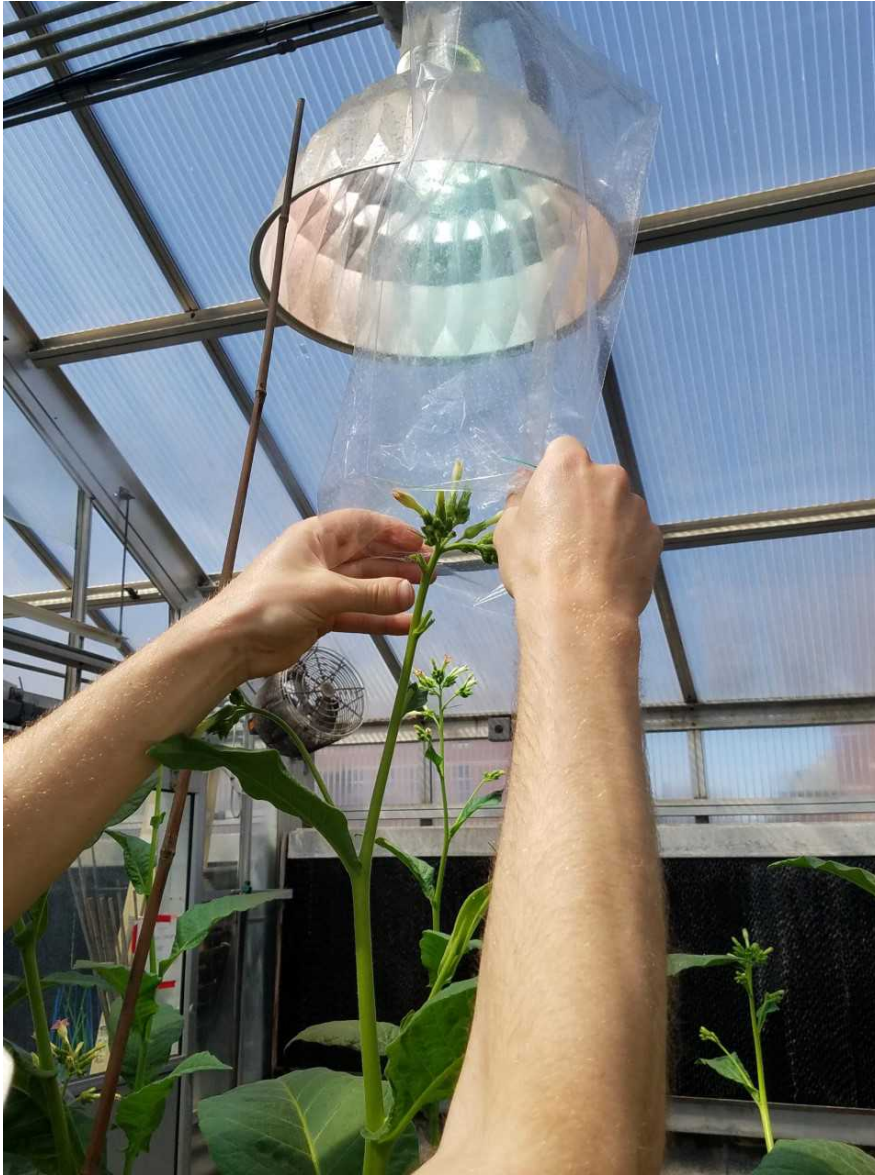




- 5 A inflorescence ready for a pollination bag will have a long, clean section of stalk to attach the bag to and will have all opening flowers removed prior to bagging.



6 Place a pollination bag over the inflorescence.



- 7 Gently gather the bottom edges of the pollination bag just below the lowest florets, leaving as much space in the bag above the florets as possible.



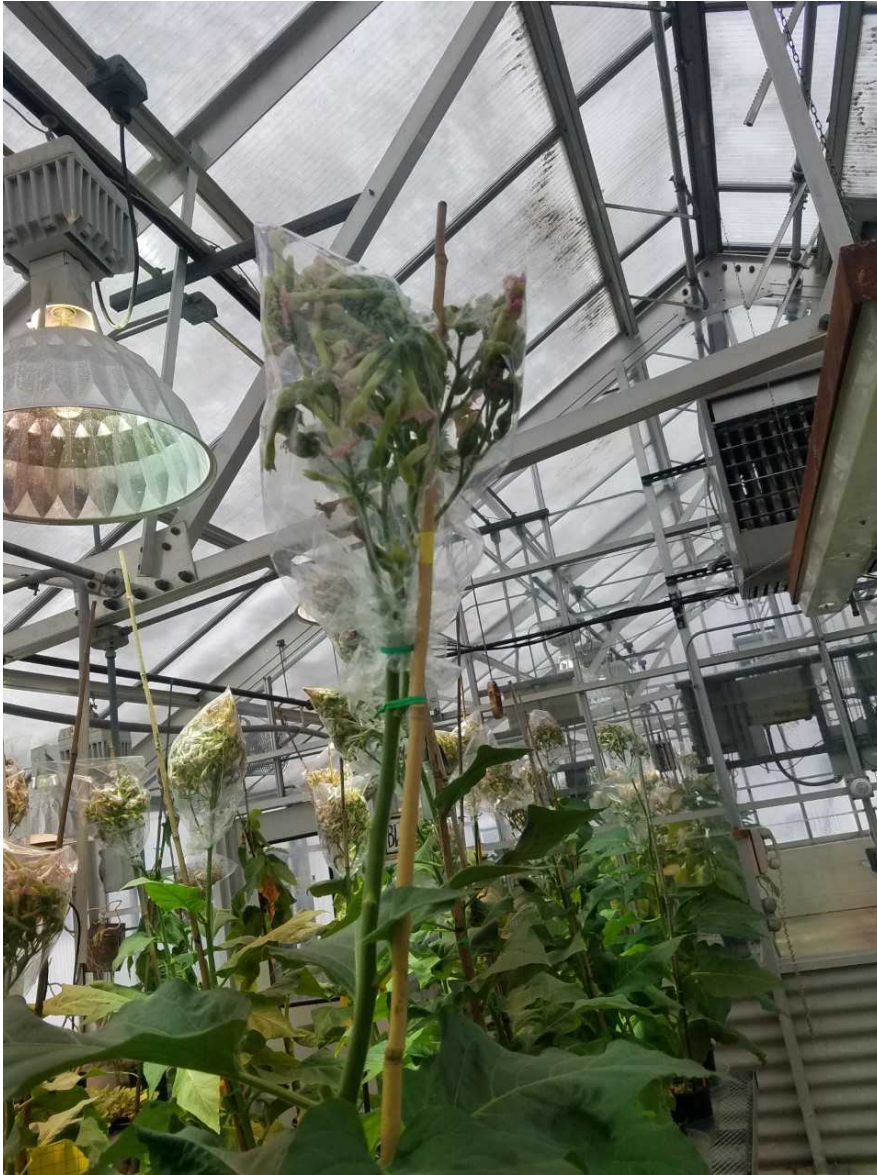
- 8 Secure the bag with a twist tie. Do not overtighten as it may damage the plant.



- 9 Continue to care for the plant for several weeks to allow it to continue to produce pollen and self-pollinate the bagged flowers.



- 10 If required, tie the inflorescence to a stake in the pot to provide additional physical support as more flowers develop and the weight of the inflorescence increases.



11 Pollinating bags may need to be readjusted up the stalk as the plant grows to make room for additional flowers.



12 When flowers fall off and the flower pods begin to brown, seeds are ready for harvesting.

