

The method, with the botany left out. **Philodendron** are **protogynous**, and the offset is wide: on one inflorescence the female flowers are receptive **about 48 hours before** the males above them shed pollen.² No inflorescence beats its own clock. **You need two plants out of step, or pollen you saved** — which is why half this card is about pollen.

THE FOUR-DAY CYCLE

Day 1	Find and flag plump, unopened inflorescences. Gather your kit while you wait. ²
Day 2 · ~17:00	The spathe is open and the spadix is warm to the touch — reported as high as 112 °F / 44 °C . ² Receptivity and heat peak together, and the peak lasts under two hours. This is your window. Pollinate now.
Day 3	Nothing visible changes. Left alone, the spathe would close slightly. ²
Day 4	Pollen sheds from the male zone, in strings, base to apex — often in the small hours. ⁴ Collect it now. This happens once.

WHAT YOU NEED

- Sharp **craft knife**
 - Soft **camel-hair brush**¹
 - Rubbing alcohol
 - Small airtight tube
- Silica gel / desiccant
 - **Fridge** (see panel)
 - Loop-lock labels
 - Notebook — dates matter

READING THE RESULT

Blackened, crusty	It took. Fruit is developing. ²
Decaying	It failed. ²
A curl at the tip of a closed spathe	It opened and closed without being pollinated . It will decay. ²
Spathe dilating, then splitting off by itself	Fruit is ripe. ⁵

THE METHOD

- 01 **Work two plants, not one.** With a 48-hour offset inside every inflorescence, a cross needs a second plant flowering out of step — or pollen you stored from an earlier flowering.²
- 02 **Open the spathe. Two working methods; pick one.** Cut it away entirely with a sharp knife² — or cut away only the **top half** and leave the bottom half in place to protect the floral chamber.⁵ **The second is the more conservative**, and its reasoning is good: the spadix drops after a successful cross anyway, and the lower chamber is what carries the fruit.
- 03 **Check the stigmas before you commit.** Receptive female flowers carry a **sticky covering** — a tiny drop of fluid on each stigma tip — and that fluid is what holds the pollen.^{1,3} No fluid, no window.
- 04 **Apply to the basal third of the spadix**, where the female flowers are.² Brush or fingertips, **moistened first in the stigmatic fluid itself**.¹ Coat them generously.
- 05 **Or use the slurry method** if the chamber is hard to reach: pollen in a little sterile water, run down the sides of the spadix with an eye dropper, then tape the spathe shut.³ *The quoted “at least sixteen minutes” has no stated basis — a habit, not a rule.*
- 06 **Collect on day 4 and label it at once** with plant and date. Cut the spadix through the middle, above the flowers you pollinated, and take the pollen from the top.² **Lift it while it is still white** — it is adhesive when fresh and ambers within about **30 minutes** in air.⁴
- 07 **Then either use it now or store it — see below.**

STORING POLLEN — AN OPEN QUESTION, HONESTLY REPORTED

Three experienced sources disagree, and this card will not pretend otherwise.

McColley & Miller, 1965 — **dry** pollen kept **six weeks refrigerated at about 38 °F / 3 °C**. Their rule of thumb is worth memorising: **“if the plant will not take 38 degrees F., neither will the pollen.”**¹

LariAnn Garner — does **not** recommend freezing species whose pollen comes away **wet and stringy**; those are “likely to fail.”³

[Alicia + Nige \(@wild.about.plants\)](#) — has **frozen it repeatedly and succeeded**, including pollen chilled ten days, *then* frozen, *then* thawed, which carried an infructescence to **day 99**. They say plainly they did not expect it to work.⁵

The likely reconciler, from the same growers: pollen texture — flaky, crumbly, stringy, powdery — is **“totally dependent on species.”**⁵ So the question is not whether *Philodendron* pollen freezes, but whether **yours** does, and **nobody has tested that for any named species**. If you try it: dry, labelled, thawed still sealed — and write down what happened.

Sources.¹ McColley & Miller 1965, *Proc. Fla. State Hort. Soc.* 78: 409–415 · ² Miller & Newton 2006, *Proc. Fla. State Hort. Soc.* 119: 425–428 · ³ Boos & Lucas, ExoticRainforest.com, relaying LariAnn Garner · ⁴ Vannini 2021, *Exotica Esoterica* · ⁵ Alicia + Nige ([@wild.about.plants](#)), Sydney, 2021–22. Photographs and figures reproduced by permission, credited to source.

What happens *next*

The spathe closes over the cross and then **nothing happens for months**. This side is what to expect while you wait, the four ways a cross fails indoors — all of them schedule problems in disguise — and the moments hardest to describe in words.

THEN WHAT HAPPENS

MONTHS	The spathe seals, the male flowers rot off inside it , and the base swells. At the end it splits at the base and falls away with the rotted male zone, exposing the fruit. ²
HOW LONG	Five published answers, and they are not the same quantity. The only one dated from the day the pollen went on: 101 days to several hundred viable seed — one cross, one grower. ⁴
RIPE	No colour chart exists. Soft to the touch , spathe remnants flaking away. ² The lower spathe, if you left it on, gapes and finally splits off by itself . ⁵ It does not ripen all at once — pick every other day . ²
SEED	One <i>Philodendron</i> puts 450 seeds in a berry; another puts six . No third measurement exists to say where yours sits. Count what comes out.
NOT A FAILURE	Thin seed is often predation, not pollination . Chalcid wasps had entered 88% of maturing wild <i>P. solimoesense</i> infructescences and took roughly 60% of the seed in the fruits they reached — all after the beetle had done its job.

THE FOUR WAYS IT FAILS INDOORS

THE CLOCK	Receptivity and heat peak together and the peak lasts under two hours . Arrive next morning and the stigmas have shut. There is no second attempt on that inflorescence. ²	NO POLLEN	Some plants simply present none in cultivation. Growers point to temperature, conditions and the plant's age . Candidates only — nothing has been compared for any species. ^{3,5}
NO PARTNER	A 48-hour offset inside every inflorescence . Two plants that flower a fortnight apart are, for this purpose, one plant. Stored pollen is the whole answer. ²	WRONG PAIR	Three breeding groups: freely within the first two, and after hundreds of attempts not once between them . ¹ Check both parents are the same kind of plant before committing a season.

READING THE INFLORESCENCE



Too early
 Morning of day one. The spathe has begun to open and nothing has happened yet.



Now
 Late on day one, moments before the heat. **This is the state to act on**.



Where the pollen goes
 Female flowers at the base (1), fertile male above (2), the sterile band between (3). Apply to the basal third.



Too late to pollinate
 Day two, cut open: resin out, beetles still inside. Right moment to **collect**.

Journal figures at their native size, cropped to fit. They are small because that is the resolution the papers embedded, and the scale bars run off the frame — do not read a measurement off one. The full uncropped files are on the web page.

Photographs. All four are *Philodendron quinquenervium* (published as *Philodendron acutatum*), by A. C. D. Maia and H. Teichert, from Maia, Schlindwein, Navarro & Gibernau (2010), *Int. J. Plant Sci.* 171(7) — reproduced by permission and credited to the paper. Sources 1–5 are listed on page 1.