

Studiedag over het genus ***Stewartia*** (Theaceae)
Journée d'étude sur le genre ***Stewartia*** (Theaceae)

Zondag 16 oktober 2011
Dimanche 16 octobre 2011

3. Christophe Crock:

Culture des *Stewartia* (multiplication, semis et boutures, plantation, soins, taille, etc) (FR)





Cultivation of ***Stewartia***

Propagation & maintenance

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Contents

Propagation:

- Seed
- Cuttings
- (Layering)
- (Grafting & micropropagation)

Maintenance:

- Planting
- Pruning
- General maintenance (mulching, feeding, watering)

Propagation by seed

Plant material :

- Most *Stewartia* are **self fertile**. American *Stewartia* seems to achieve better fertilisation when the population of *Stewartia* is bigger than 20 specimens. (**Not the same DNA**: no cuttings or grafts of the same clone!).
- The quality of the seeds produced is influenced by:
 - **the health of the plant,**
 - **the climatic conditions.**



Natural seed dispersal:

- Wind
- Birds
 - **Chickadee** (*Poecile atricapillus*)
 - **Nuthatches** (*Sitta carolinensis*)
- Squirrels



Propagation by seed

Harvesting time:

About mid September **when capsules change from green to brown** or even a little earlier when still green, but of course, mature.

Technique:

- Seed,
- 1L pot,
- Medium,
- Most *Stewartia* have doubly dormant seeds.

Propagation by seed

2 options:

- 1) Stratification
- 2) Sow immediately & wait

Stratification of seed

- Succession of warm (3 months) & cold stratification (3 months)
- Start stratification when seed is mature (September or October)
- Sow your seed after stratification (April or May)

Stratification of seed

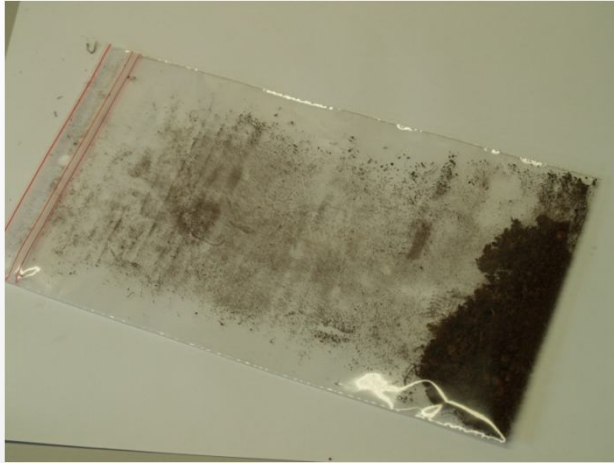


- Collect fresh seeds



- Clean them

Stratification of seed



- Mix the seeds with peat & store in a plastic ziplock bag



- Label them (very important)

Sowing without stratification



Sow immediately and wait:

- Sow your seed fresh in **1L pots** & let your pots in a frame outside & let nature do its work. Wait a few years.
- You can even sow them in **raised beds** using in a pine bark free draining medium which is very good as young seedlings don't like transplantation at all.
- Beware of mice, covering your raised bed or frame with wire mesh will help prevent problems.

Sowing without stratification



One year after sowing:

- Nothing to see.
- (A little disappointed.)

Sowing without stratification



Two years after sowing:

- Nothing to see.
- (Very disappointed.)

Sowing without stratification



Three years after sowing:

- Two seedlings.
- (A little happy.)

Sowing without stratification



Four years after sowing:

- Lots of seedlings.
- (Very happy.)

Sowing without stratification



Five years after sowing:

- They are growing.



- Pricking out: after two growing seasons in pot.



- Welcome surprise: a new cultivar is born.

Sowing media

For Asiatic *Stewartia*:

Compost	50%
Acidic compost	10%
Fine bark 0-15 mm	20%
Perlite	10%
Fine gravel	10%

For American *Stewartia*:

Compost	20%
Acidic compost	10%
Coarse sand	20%
Fine bark 0-15 mm	40%
Perlite	10%

Greenhouse growing conditions

For Asiatic *Stewartia*:

Water the pots to keep growing medium moist, but not wet. Just prevent the seed from ever getting dry. Once germination occurs, start to water a little more as the plants seem to require it. Asiatic *Stewartia* **need moisture & water**.

For American *Stewartia*:

American *Stewartia* don't like moisture as they grow in very dry conditions in the wild. They **don't** seem to **like water & moisture** on their leaves & on their new shoots. It seems better to water from the bottom as soon as the young roots reach the bottom of the pot. To improve this way of watering, some growers use pots with an open bottom with a medium consisting almost only of pine bark.

Cuttings

Plant Material:

- Stock plants should be juvenile: 18 month old plants are the best.
- Collect from upright shoots or from vigorous horizontal branches.
- Collect soft wood cuttings at the end of June (depending on climate) or half hardwood cuttings a little latter, but softwood cuttings are easier to get growing.
- Collect your cuttings in the morning before 10 am.

Cuttings



Technique:

- 10 cm cuttings.
- Use rooting hormones IBA (no high concentration) 2000-4000 ppm.
- Cafeic acid or ascorbic acid (professional).
- Wounding.

Cuttings



Media:

- Mix of 1/1 perlite & peat or coir for Asiatic *Stewartia*.
- Mix of 1/3 perlite, 1/3 peat or coir & 1/3 fine pine bark for American *Stewartia*.

Maintenance



Greenhouse growing conditions:

Under mist or in a place with very high moisture. Less misting & moisture is required for American *Stewartia*.

Fertilisation:

Not much fertilisation: twice a month with fertilizer in low concentration (foliar feed).

Repotting

Maintenance

Adapting plant to outdoor condition:

Shade → light .

Moisture → drought.

Getting through the winter:

Hardening off until early November (or before the beginning of night frost)

Frost free cold polytunnel or greenhouse until February/March.

Keep the media quite dry & ventilate.

Bringing plants to life in the spring:

End of the winter: transfer to warm green house & extend photoperiod.

Once plants start to make new shoots → repot them if needed.

Layering

Plant Material:

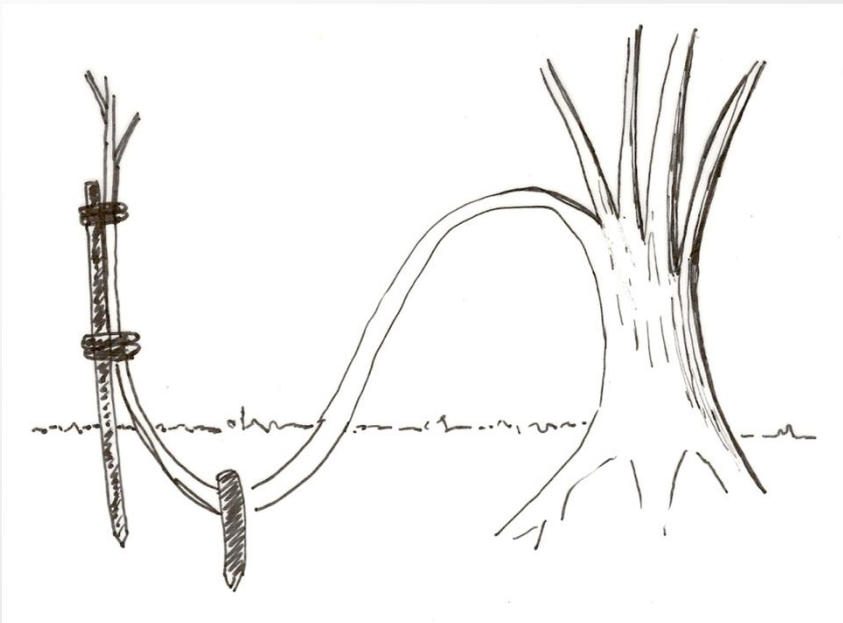
Stock plants should be healthy and have healthy lower branches

Technique:

When: in the autumn.

What: young flexible healthy branch.

Once that the layers start to root wait two more growing seasons before taking the young layers away from the mother plant. Those two years of rooting will give more chance of survival to your layers.



Cultivation of Asiatic *Stewartia*



Planting:

- Soil : humus rich acidic garden soil.
- Light : woodland conditions.
- Water : Asiatic *Stewartia* need a cool soil with enough water during the summer, but don't seem to like waterlogged locations.
- Choose a spot with enough space to allow your *Stewartia* to fully develop.

Maintenance of Asiatic *Stewartia*

Pruning:

Prune as little as possible & respect their natural growing habit. Most of the Asiatic *Stewartia* will be multi-stemmed. *Stewartia pseudocamellia* & *S. monadelphica* may have a single leader depending on the clone & origin; American *Stewartia* are always shrubby.

Fertilisation:

Most *Stewartia* will be happy with a good mulching every year. Fertilizing them too much won't be positive for your plants. In poor soils, they might appreciate a little manure every few years.

Watering:

Only water the plants during an extended summer drought. If watered too often, plants will become lazy & won't produce enough roots.

Cultivation of American *Stewartia*



Planting:

- Soil: very free draining humus rich acidic soil.
- Light: they will grow very well in 'hot' open woodland conditions.
- Water: American *Stewartia* don't need much water.
- Choose a spot with enough space to allow your *Stewartia* to fully develop.

Maintenance of American *Stewartia*

Pruning:

Prune as **little as possible** & respect their natural growing habit. American *Stewartia* are mainly big multi-stemmed shrubs. Don't always prune these stems as they are the plant's way of making sure that a healthy succession of stems will be available.

Fertilisation:

Most American *Stewartia* will be happy with a good mulching every year. **Don't fertilize** them at all as this will kill the plants which grow in very poor soil in their natural habitat.

Watering:

Only water **young** plants during an extended summer drought.

Thank you

Many thanks to Tim Boland & Jack Johnston for their help & information concerning American *Stewartia*.