



Beginner's Home Tobacco Growing FAQ

This original content was prepared by deluxestogie (with contributions from many forum members) of the Fair Trade Tobacco Forum (<http://www.fairtradetobacco.com>).

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An overview of growing tobacco.

Tobacco is grown from seed, usually indoors, then transplanted to the growing bed when they reach about 6 inches tall. The mature size of a tobacco plant ranges from 3 to 8 feet, with most being about 4 to 6 feet tall. The flower head is often removed prior to maturing, in order to produce larger, richer leaf. Tobacco is harvested either by priming (one leaf at a time), or by the whole stalk. It must be hung and allowed to wilt and die slowly, in relatively humid conditions, so that all of the green chlorophyll is broken down, and the leaf turns yellow or directly to brown. This requires weeks to months. Following this stage, the dead leaf must be aged, enabling its natural enzymes to render it smokable. Aging requires months to years. The aging process can be shortened to about a month using controlled heat and humidity (a kiln). Expect 100 to 200 cigarettes per plant; 6 to 12 corona-size cigars per plant; 2 to 5 ounces of pipe tobacco per plant. As you progress from leaves lower on the plant to higher, the flavor and strength increase.

1. Is it legal to grow your own tobacco?

Within the US, there are (at the time of this writing--March, 2012) no federal restrictions on growing your own tobacco.

2. Where will tobacco grow?

Tobacco will grow from the tropics to as far north as Scandinavia. It grows in lowlands, in mountains and places in between. As for maximum altitude, there is commercial tobacco production in Nepal. The important factor is that you have at least 90 frost-free days.

3. What varieties of tobacco are there?

There are over 70 species of *Nicotiana*, the genus which includes smoking tobacco and all its plant relatives. *Nicotiana tabacum*, the tobacco of commerce, comes in over 2000 named varieties. There are also dozens of named varieties of *Nicotiana rustica*, originally cultivated by the natives of North America. *N. rustica* is usually much more potent than *N. tabacum*. In the discussion below, all reference is to *N. tabacum*.

4. What tobacco varieties should I grow?

Any variety of tobacco can be used for any purpose. The US Department of Agriculture (USDA) classed tobacco into commercial classes, based on their common use.

- **Burley**

This is a group of traditionally air-cured, flavorful tobaccos with relatively high nicotine.

They tend to be fairly easy to air-cure. A common major ingredient in cigarettes, though it makes wonderful cigars and pipe tobacco.

- **Flue-cured**
These varieties, often just called, "Virginias," grow well in sandy-loam, and are traditionally cured with heat. Used as a major ingredient in cigarettes, pipe blends. They are successfully air-cured.
- **Dark/ air-cured**
Producing large, dark green somewhat sticky leaves, these varieties are used in making chew and snuff.
- **Dark/fire-cured**
Fire-cured varieties tend to produce dark, heavy, sometimes sticky leaves that can endure a multi-week exposure to both the heat and the smoke of open curing fires. The resulting leaf is tough, darkened, and gives off a distinct smoky aroma and taste. Traditionally used for chew, snuff, cigarette blending, and is blended in some Appalachian-style cigars and stogies. Sometimes used in pipe blending. It can be air-cured.
- **Maryland**
These tobaccos resemble the large, seed-leaf varieties, from which they are derived, though they tend to be mild, with low nicotine. They are traditionally stalk-harvested and air cured, and often used to decrease the nicotine content of a blend. Used for pipe blending, cigarette blending. Can be used as mild cigar wrapper / binder / filler. They absorb sauces and flavorings well, and can also be used for making Black Cavendish pipe tobacco.
- **Cigar Filler**
Since most tobaccos can be used as cigar filler, this formal class includes only those that found a major market as filler with cigar manufacturers, either in the U.S., or in its primary growing regions. Varieties that regularly produce leaves which are thick or corrugated or intensely rippled are unsuitable for use as wrapper or binder, since they can not be flattened. Some of these varieties are nearly identical to varieties classified as Cigar Binder. The cigar terms, "seco" and "ligero," refer to leaves lower or higher on the plant, respectively.
- **Cigar Binder**
Binder is a diverse class of tobacco varieties that tend to produce a leaf with sufficient elasticity to withstand the stress of compressing a bunch of cigar filler. Some of these varieties are nearly identical to varieties classified as Cigar Filler. Their flavors, aromas and burn qualities are not a consideration in classification.

- **Cigar Wrapper**

Wrappers for cigars require a leaf (or portion of a leaf) that is without flaws, both for reasons of air flow as well as aesthetics. While some are preferred to be thin, such as Connecticut Shade leaf, others are noticeably thicker, such as Florida Sumatra, Connecticut Broadleaf, and most wrapper leaf that is grown in full sun. Traditionally shade-grown wrapper varieties can be successfully grown without shade.

- **Oriental**

Also called "Turkish" tobacco. Today, these are frequently grown in Macedonia, Greece, Bulgaria, Turkey and the Republic of Georgia. Oriental tobaccos have a reputation for being small-leafed, delicate, aromatic and low in nicotine. This is true of some, though not all. Oriental tobaccos are traditionally sun-cured, though they are successfully cured by any of the available curing methods. Latakia, grown in Syria and Cyprus, is an indeterminate Smyrna-like variety that is intensely fire-cured. Uses: Cigarette blending, pipe blending. The larger leaf Oriental varieties can be used as cigar wrapper / binder / filler.

- **Hungarian**

This wide-ranging collection of tobaccos has its origins in the tobaccos grown within the many Eastern European member states of the Austro-Hungarian Empire. There is no distinctive characteristic of the class. Some are notoriously strong; others are mild.

- **Primitive**

These are varieties that appear to be *Nicotiana tabacum*, but have been subjected to little or no agricultural improvement effort, in comparison to the "wild" type. Their splayed venation patterns may make it difficult to utilize as cigar wrapper or binder. Some have distinctive, sometimes odd, aromas and flavors. Some make excellent and rich cigar filler and cigarette blending leaf.

5. **How many plants should I grow?**

Depending on the variety, you can expect 100 to 200 cigarettes per plant; 6 to 12 corona-size cigars per plant; 2 to 5 ounces of pipe tobacco per plant. Most tobacco requires about 3.75 sq. ft. in a deeply dug bed. In traditional row planting, it is spaced 3 feet within the row, with 4 feet between rows. The curing space required is about 0.5 to 1 sq. ft. per plant, hung in a single tier. (see "Air Curing" below)

6. **Can I grow tobacco in pots?**

Tobacco will grow in a large pot, so long as it has adequate drainage, and the sun exposure is sufficient. A minimum 5 gallon container is suggested. Potted tobacco seldom grows as large as that grown in the ground.

7. **Can I grow tobacco indoors?**

Yes, with expensive lighting or good sun exposure. But indoor growing tends to produce mild, bland tobacco that may not be worth the effort and expense.

8. **Where can I acquire tobacco seed?**

Free seed is available from this forum, according to the posted rules.

Seed may be purchased from the following sites:

- http://www.newhopeseed.com/tobacco_seeds.html [Tennessee - ships to U.S., Canada, United Kingdom, New Zealand, and Scotland]
- http://www.heirloomtobacco.com/Seed_Bank.html [location unknown]
- <http://www.jludsonseeds.net/SeedlistN.htm#Tobacco> [California]
- <http://www.nativeseeds.org/index.php/component/redshop/53/0/seeds/tobacco> [Arizona]
- <http://www.seedman.com/Tobacco.htm> [Mississippi]
- <http://www.nextharvest.com/tobacco.htm> [bulk order branch of Seedman]
- <http://www.tabakanbau.de/de/sitemap.php> [German Language. "samen"=seed]
- <http://b-and-t-world-seeds.com/letters.htm> [France, but multilingual]
- <http://www.coffinails.com/order.html> [UK]
- http://www.thetobaccoseed.com/Tobacco_Seed_Varieties.html [UK]
- <http://www.organicseedco.com/tobaccoseeds.html> [Massachusetts]
- <http://www.victoryseeds.com/tobacco.html> [Oregon]
- <http://sustainableseedco.com/Heirloom-Tobacco-Seed/> [California - ships worldwide]
- <http://northwoodseeds.com/> [by Skychaser: Washington state - ships worldwide]
- <http://www.onlinetobaccoseedstore.com/> [theTobaccoSeed, for US]

9. **When do I start my tobacco seed?**

Seed should be started 6 to 8 weeks before your last frost date.

10. **How should I start my tobacco seed?**

Tobacco seed is quite tiny (~1/2 mm). A typical packet of seed will contain 50 to 200 seeds. Using a standard "seed starting" soil mixture in a small container, moisten the soil (not soggy) and sprinkle seed uniformly over the surface. Seal the container with a lid or plastic wrap, then keep out of direct sunlight, making sure the temperature is between 70°F and 85°F. After four to six days, the tiny, coffee-colored seed should reveal a white radicle sprouting from one end. (Some seed may require several weeks to germinate.) At this stage, the seed has swollen, and can be easily picked up with a toothpick. Transfer one sprouted seed each to seedling cells (48 to 72 cell tray) or to individual 3" pots, and place them in partially shaded sunlight. Any seedlings remaining in the initial starting container should be left uncovered, and kept moist.

11. How do I prepare tobacco transplants?

Seedlings should grow to transplant size (6" tall or more) in about 6 to 8 weeks. They should be kept watered, and allowed good drainage. They will need to be gradually introduced to full sunlight exposure. Starting 4 days before you intend to transplant them, stop watering. The day prior to transplant, water them thoroughly. You should produce about 50% more transplants than you require, in order to replace any field mortality.

12. Where can I buy ready tobacco transplants?

If you wish to avoid the production of ready transplants, you can purchase them to be shipped to you. They travel well, and can be immediately planted in your garden.

- Check this forum for members offering transplants for shipment.
- http://www.newhopeseed.com/tobacco_seeds.html offers transplants for shipment.

13. When do I transplant to the field?

A newly planted tobacco transplant is delicate, and is unlikely to survive a hard frost. The safest date is 1 to 2 weeks after your average last date of frost. Many members transplant with success earlier than that.

14. Where should I place the transplants?

Tobacco should be planted in soil that is not prone to flooding or prolonged standing water. While the plants require a lot of water, the soil must drain well. Full sun is ideal. Second best is at least half-day sun plus reflection from a light colored wall. If grown in partial shade, tobacco will be taller and thinner. Soil should be tilled as deeply as you can manage, and kept weed-free. Plant the tobacco at the same depth as it has been growing, or slightly deeper. Water immediately after planting with 1 or 2 cups of water per plant. Water whenever the soil dries, or if the plant appears droopy.

15. What fertilizer should I use?

If you plant in newly broken lawn, then no fertilizer may be necessary. You can fertilize prior to transplanting with aged or composted manure. Raw manure should only be used if it will have at least a few months to rest in the soil before planting. With one notable precaution, common tomato fertilizer may be used according to tomato instructions. High chloride in the soil will cause the leaf to burn poorly. So avoid fertilizers which contain chlorides (which can also be called Muriate of Potash). Discontinue fertilizer when the flowerhead is in button stage.

16. How often should I water the growing plants?

Most varieties of tobacco will droop during the heat of the day. If the leaves do not assume the prayer position over night, water them the next day. Over watering is a very common mistake made by home growers. You may never need to water.

17. What about topping?

For highest leaf yield and strength, the bud head should be removed just before the blossoms open. Tobacco is commercially topped when 10% of the plants show at least a single flower in bloom. Weaker plants can be

topped to fewer total leaves, in order to improve production. If you wish to save seed, you must not top the plant.

18. **Do I have to remove the suckers?**

Small buds will form at each leaf axil (where the leaf stem meets the stalk), and sometimes at the base of the stalk. If these are not removed, they will grow into branches, decreasing total yield. Suckers are stimulated when the plant is topped. A sucker up to 3 inches long can be snapped cleanly from the plant with your fingers. In general, suckers do not cure as easily as main leaf, and will seldom equal it in quality. Suckers can also serve as a nidus for aphid infestation.

19. **How and when do I harvest my tobacco?**

Individual leaf priming follows the maturation process of the plant, moving from the bottom to the top of the plant. You can prime leaves whenever the leaf tip begins to brown and curl. For cigar leaf, wait until the leaf shows increased thickness and some bumpy puckering of the surface. This is the *mature* stage. The stem of a mature leaf will snap cleanly from the stalk with a twist of the wrist. Primed leaf can be strung on a wire or sturdy cord for hanging. An entire stalk can be hung by driving a nail diagonally into the base of the stalk, or with any other clever device that can support a 10 pound plant.

For stalk-harvested burleys and Virginias, you may find that they color cure most easily if they are allowed to yellow fully or at least partially, while still standing. The woody stalk is chopped off just above the ground. The whole plant is then allowed to wilt a few hours in the sunlight (while kept out of the rain), then hung entire in the curing area.

20. **How does the green leaf turn into usable tobacco?**

Color curing takes advantage of metabolic processes within the *living* leaf to consume carbohydrates and break down the green of chlorophyll. If the leaf is allowed to fully dry (thus die) green, it will remain green. So it should not be allowed to dry crispy until after the green color is gone or mostly gone. Following color curing, the leaf should be allowed to age. The aging process utilizes oxidizing enzymes within the dead leaf to decrease the alkaloid content (such as nicotine), break down the albuminous proteins, and release the resultant ammonia.

21. **How can I color cure my tobacco?**

There are four common methods of promoting color curing.

- **Air curing**

Leaf or entire plants are hung in the shade or in a shed, and allowed to slowly die. This requires typically one to two months. Fan circulation is helpful in preventing local pockets of very high humidity to cause rot. Once the leaf is brown, higher humidity is likely to cause mold. At this point, the leaf can be dried down and stored, or left hanging to age. Curing space may be an issue. In a single tier, estimate 1 sq. ft. / plant for primed leaf; ~1/2 sq. ft. / plant for stalk cured (with at least an 8' roof). Watch the weight. An entire tobacco plant weighs over 10 lbs. A 10' x 10' shed hung with whole plants at 0.5 sq. ft. / plant (200 plants) adds **over 1 ton of weight** to the structure. Primed green leaf @ 1 sq. ft. per plant weighs only 8% of that. Dried leaf alone will weigh only 3% of the weight of the whole green plant on which it grew.

- **Sun curing**
The leaf is fully wilted in the shade, then allowed to hang in direct sunlight until cured. If hung close to the moist ground, green mottling will be kept to a minimum. The process is usually complete in several weeks. The process is tricky.
- **Flue curing**
Most home growers will not have the necessary equipment to flue-cure tobacco. The process requires slowly raising the temperature over 5 days to 160°F+, while simultaneously lowering the moisture content. When finished, the tobacco retains its light color, and is immediately ready to smoke without further processing. This is the commercial method used for much of cigarette tobacco.
- **Fire curing**
This can be accomplished in a home smoker (as used with meat smoking). The leaf is heated to moderate temperatures (below 140°F), while being exposed to the smoke of a fire. This requires 1 to 4 weeks, minimum.

22. How do I finish my tobacco?

Immediately after color curing, tobacco can be smoked, but it will be harsh, and have a "raw," ammonia-like odor. It also tends to burn poorly at this point. If the leaf can be left hanging in an area that exposes it to rising and falling humidity, in temperatures that go above 60°F, it will mellow over 6 to 12 months, and develop a typical tobacco aroma. This aging process can be shortened to about one month with the use of a kiln, which can be built for less than \$50. Many creative, alternate methods exist.

During this period, the humidity should not be allowed to remain above ~80% RH for more than a day or two, in order to prevent mold.

23. How can I handle dry tobacco without breaking it?

You can't. If it is hanging tobacco, just wait for a couple of rainy days. Stored tobacco can be re-humidified with a mist of water. When in a proper state for handling, it should not be noisy like dry leaves, but rather have a softer rustling sound, like stiff vinyl. The texture will be supple like calf skin.

24. Is there an easy way to stem tobacco?

While the stem will burn fairly well, and is smokable, it gets in the way of cigar rolling, and is a road hazard for most tobacco shredding devices. It should be removed. Bring up the moisture content of dry leaf until the noise of touching it quiets. Hold a leaf with the base of the stem away from you, and the underside (ribs are most prominent) facing up. Starting near the tip, split one side away from the central vein and gently drag it toward the base of the stem. Go slowly at first. When done correctly, little or no leaf will remain on the stem, and each half-leaf strip will be intact. With time and practice, stemming one leaf should take about 15 to 20 seconds, faster if you plan to shred it.

25. How do I shred tobacco?

Dedicated tobacco shredders exist (search Teck 1), but tend to be expensive. Members have used blenders,

meat grinders, pasta cutters, paper cutters, paper shredders, knives, chavetas (curved, hand-held cigar blades), scissors and other tools.

26. What's the story on blending tobacco?

It is a rare tobacco that reaches its full potential alone. Most varieties, in most uses, are improved by blending with one or more other varieties. A typical cigarette blend is 40% Virginia, 40% burley, 10% Oriental. Cigar fillers typically blend milder leaf (seco) with various proportions of stronger leaf (ligero). English-style pipe blends may mix Virginias, Oriental, Perique and a fire-cured variety. Flavored pipe tobacco may consist of burley, Maryland and Virginia, plus one or more flavoring agents.

27. How do I store my finished tobacco?

Tobacco can be stored completely dry in any container. If kept with more moisture, the RH should be 70% or lower to prevent mold. Tobacco can be re-humidified for smoking with a light mist of water, some steam from a kettle, or simple exposure to the humidity on a rainy day. Properly stored tobacco will continue to age and mellow for years.

28. How can I make my favorite Marlboro cigarette or Punch Cigar etc?

You're on your own here. You will most likely, with time, find many unique blends using your own tobacco. The blending possibilities are infinite, but in the absence of the chemicals added to all manner of commercial tobacco, you may become one of the many forum members who don't just "get by" with home grown blends, but actually prefer them to what is available commercially. The same is true for "premium" cigars.

29. How can I save my tobacco seed?

If more than one variety of tobacco is grown within a range of 1/2 mile, the varieties may cross-pollinate. This usually occurs from insect borne pollen. Wind pollination seems to be minimal. Happily, tobacco is self-fertile. In order to save seed of a pure strain, for yourself or for sharing with others, you should bag the bud head before the first blossom opens. An ideal fabric for a bag is a thin, spun fabric, such as Agribon-AG15. Some use organza or "wedding veil." You can sew your own bags, or purchase them from members who offer them. Some varieties of tobacco will produce a bud head that more than fills and stretches a 24"w x 30"h bag, though some bud heads are much smaller. Ideally the bud head is left on the plant until most or all of the 1/2" to 1" seed pods (there may be over 100 on a single plant) have yellowed or browned. This may require 4 or more weeks beyond harvest time. The bagged head can then be hung inverted to dry completely. It requires ~1 sq. ft to hang 1 full seed head. A single pod may contain no seeds, or up to 10,000 seeds. (Very few of the 1/4 million seeds will fall out on their own.) Once dried, the seed pods are crushed to release the tiny seeds. Dry, clean seed, in a tight container kept in a cool, dark place, will remain viable for 5 to 10 or more years.