

## Potato Growing Tips

**Maturity?** Maturity of a variety is often described as early, mid-season and late. Differences will occur between regions but the general rule of thumb that I follow is early - 60 days, midseason - 90 days, and late - 120 days measured from the time of planting until harvest. Potatoes will emerge anywhere from 3-5 weeks after planting. It is important to have frost-free days from the time of emergence until harvest.

**Chitting?** Whole seed can be chitted (green sprouted) prior to planting, this will ensure earlier emergence and may allow you to delay planting. Potatoes are heavy feeders, if you have adequate moisture, add 4lbs of a 7-7-7 fertilizer per 25 feet of row. Planting shallow encourages early emergence especially if the soil is cool. This also reduces the occurrence of Rhizoctonia (Black Scurf).

**When to Plant?** How warm should the soil at planting time be? The soil temperature should be at least 5°C. Ideally the soil temp at the depth that the seed piece will be placed should be 10°C. It is also very important that the temperature of the seed piece is close to being the same as the temperature of the soil at planting time.

**Scab?** A number of people have asked about scab. Bacteria that are present in most soils cause scab. The incidence of scab is dependent on the following factors: variety, soil, and moisture. Some varieties are more susceptible than others are. There are no varieties that are completely resistant to scab. Russets seem to be less likely to get scab than other varieties. The following varieties are considered susceptible: Pontiac, Shepody and Yukon Gold The following are considered moderately resistant: Kennebec, Red Norland, Russet Burbank and Viking.

The higher the level of organic matter the more risk of scab, regardless of variety. If you have added large quantities of straw or manure to your garden site you have raised the percentage of organic matter and raised the risk of scab. If your garden is on an old farm site and happens to be on the site of an old straw pile or manure pile your risk of scab is very high. Sandy soil, which is low in organic matter, has a low risk of scab. Dry years tend to be worse than wet years for scab. Scab only affects the appearance of the potato and does not affect the eating quality of the flesh of the tuber. Yield is not generally affected by scab. In a dry year keeping the soil moist with watering should reduce the amount of scab.

**Spacing?** What is the best seed spacing when planting? It depends on the variety. Early varieties can be planted close together (4"-8"), as they tend to have a low number of tubers per hill; this helps to keep the size of those nice new potatoes to a minimum. Midseason varieties can be planted 8" to 12" apart. Late season varieties should be planted 12" or more.

# Scab

## Potato Dermabrasion

I grew up eating the odd scabby potato, baked or boiled, and I never noticed anything off about the flavour. Besides, if we didn't like seeing imperfect potatoes on the dinner plate, we figured we could always scrub off the scab or cut away the affected bits. But not everyone shares my tolerance for scab. The condition has caused considerable consternation among potato enthusiasts, leading many to misplace hope in the powers of lime, sulphur, eggshells, or even manure to produce perfect, unblemished tubers. None of these treatments, however, have much effect.

The scabby lesions we see on potatoes are the result of thaxtomin, a toxin produced by various strains of the bacterium *Streptomyces scabies*, which, while not harmful to people, does wreak a bit of havoc on potato tubers all over the world. Lime and manure have both been shown to actually make this problem worse. While acidifying the soil with sulphur does reduce scab, it can be slow to react depending on soil pH. In very alkaline earth, for example, this treatment doesn't work at all.

## An Ounce of Prevention

So, how does the potato grower battle the dreaded *Streptomyces*? Since scab finds its way into gardens usually via the addition of infected soil, by hitching rides on contaminated tools, or, of course, by the using afflicted tubers as seed potatoes, awareness can be the best defense. Always examine seed for scab before planting, or ask the staff at your favourite garden centre to help you choose certified, resistant varieties. Although I love Yukon Gold, this variety is highly susceptible to scab. Lucky for us (and for our beloved fast food industry), Russet Burbank, the most popular French fry potato, is quite resistant.

As potatoes grown in warm, dry, sandy soils seem to have the most potential for scab damage, keeping soil evenly moist and well conditioned will help limit the problem. But don't over-condition the soil; adding heaps of organic matter to your potato patch will give *Streptomyces*, a natural agent of decay, a happy home indeed. For additional prevention, you might try rotating your garden crops. Next year, move the potatoes to another part of your plot, planting corn, for example, in its place, rather than another root crop. This pervasive bacterium can also attack carrots, turnips, rutabaga, parsnips, radish and beets. In my experience carrots and beets seem to be attacked to a greater degree than the other roots, yet none as severely as potatoes.

Perhaps the most important thing to realize is that scab is only a "cosmetic" disease. Scab lesions are superficial, rarely penetrating more than a millimeter or two beyond the skin. In the end, tolerance and acceptance might be the gardener's best approach when faced with the odd scarred potato. After all, it's what's inside that counts.

**What is potato scab?**

Common Scab of potatoes is a bacterial disease. Symptoms include tan to dark brown, rough-textured lesions on the tuber surface. Scab is typically introduced into the soil by infected tubers, and will survive indefinitely in the soil. Common scab is most severe in warm, quick-drying soils and increases through a pH range of 5.2 to 8.0.

**What is the economic impact of potato scab?**

Common Scab is a cosmetic disease, with no effect on yield. Scab is more of a problem in table potatoes than in processing potatoes, as scab lesions are restricted to the tuber surface and peeling removes the problem. Severe scab can reduce the quantity of useable product, as more peeling is required.

**Will soil amendments reduce scab incidence and severity?**

It is theoretically possible to adjust soil pH to outside the pathogen's preferred range. In reality, the quantity of amendment required to accomplish a change in pH is considerable and cost prohibitive. If the necessary adjustments were accomplished, the potato crop itself would be outside of its preferred range and yields may suffer.

**What can I do to control scab?**

Scab cannot be eliminated but incidence and severity can be reduced through a combination of practices.

- Avoid introducing scab into soil by planting scab-free or treated seed.
- Rotate to other crops for 3-4 years between potato crops.
- Avoid susceptible crops in the rotation (root crops).
- Green manuring (rye, millet, oat) has been reported to reduce the incidence of scab.
- Maintain adequate soil moisture during the time of tuber formation and growth (tuber initiation starts 4-6 weeks after planting).
- Plant more resistant cultivars.

**What cultivars of potato are less likely to develop scab?**

No cultivar of potato is resistant to common scab.

<b>Potato Type</b>	<b>Susceptible</b>	<b>Moderately Resistant</b>
<b>Red</b>	AC Peregrine Red Pontiac Sangre	Cal Red Cherry Red Chieftain Caribe Dark Red Norland Norland Nordonna Red Cloud Red Ruby Viking
<b>White</b>	Cal White Shepody Irish Cobbler	AC Ptarmigan Eramosa Kennebec Superior
<b>Yellow</b>	Yukon Gold Bintje	Adora Agata Albina Dali Island Sunshine Penta Provento Sante
<b>Russet</b>	Ranger Russet	Gold Rush Russet Norkotah Russet Burbank