

Extension Perspectives

October 2009

Waldo County

Volume 27

Gardening after Late Blight

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The gardening season has come to an end and you are already thinking ahead to next year. The garden was a big success except for LATE BLIGHT that wiped out the tomatoes and potatoes. A few tomatoes managed to ripen and the potatoes, if there are any, are still in the ground. Of course, the potato plants have been dead for 2-3 weeks now and the tomato plants certainly need to be given last rites. So, now what!

Let's first look at late blight and what happened in 2009. Late blight (which helped to create the Irish Potato Famine and the "hungry forties" in England and throughout Europe in the 1840's) is caused by *Phytophthora infestans*, a fungus that overwinters on living tomato or potato tissue. The disease first appears as irregular, pale to dark green, water-soaked spots. These spots usually appear on the tips or edges of the leaves.

In cool, moist weather or under humid conditions, the spots enlarge rapidly and form brown to purplish-black necrotic areas with wavy, indefinite borders, surrounded by a yellowish-green halo. Also under these conditions, a ring or a surface of white fungal growth may appear at the edge of the lesion on the underside of the leaf, which produces spores that move to other plants and continue the infection.

In 2009, we had perfect late blight weather for the months of June and July. Unfortunately, there was also plenty of spore inoculum around from store purchased tomato plants to cause very early late blight infections in home and commercial gardens.

These spores continued to spread and caused severe outbreaks of late blight in both tomatoes and potatoes in

southern and central Maine. Luckily, the weather in August was hot and dry and eventually slowed the outbreak down and brought it to a standstill.

However, that doesn't mean that the disease is gone. It is just lying dormant in those remaining leaf, stem, fruit, and tuber lesions waiting for the cool, wet weather so it can become active again and start sending out new spores for new infections.

So now the big questions come up. What do I do with my dying plants and disgusting fruit and, oh yeah, what about those potato tubers that I still haven't dug yet? What about next year do I have to worry about late blight in my garden again, especially since I had it this year? Are there any resistant varieties?

Any healthy tomatoes you can salvage can be eaten. However, the USDA doesn't recommend canning tomatoes from late blight infected plants. There is a concern that the fungus may change the acidity of the tomatoes and therefore affect canning quality. Late Blight is an obligate parasite and thus needs living tissue to survive. Once the infected plant material is dead the fungus will die and will not carry over to the next year. The removal of living tissue is the key to preventing carry over. The remaining infected and dead plants (both potato and tomato) and infected fruit should be destroyed by burying or sealing in garbage bags and taken to a landfill.

Do NOT compost diseased plants or fruit.

Composting is not recommended because many compost piles are not tended properly and are therefore not

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CALENDAR

Waldo County Extension Association Meeting

Monday 6:30pm
October 19 Waldo
UMaine Cooperative Extension, 992 Waterville Rd, Waldo.
Public welcome. www.extension.umaine.edu/Waldo/wcea

Great Maine Apple Day

October 24 12 - 4 pm
MOFGA Common Ground Education Center in Unity
Celebrate the history, flavor and tradition of Maine apples.
Attend educational workshops and talks. See and taste rare
and heirloom apples. Identify mystery varieties. Buy local foods
and products. Drink freshly pressed cider. www.mofga.org/Default.aspx?tabid=294

Sheep & Goat Nutrition Seminar

Saturday 9am - 4 pm
October 24 KVCC, Fairfield
This educational seminar is designed for adults but may be
suitable for youth 12 years and older. Below is a link to the
schedule and registration form. The deadline to register is
Friday, October 16. The Sheep & Goat Nutrition Seminar
webpage is up at: www.extension.umaine.edu/livestock/SheepGoatNutritionSeminar. For more information call
Colleen at 780-4205 or 1-800-287-1471

Doing Business Radio Show

Thursday 10am - 11am
November 5 Publishing
WERU 89.9/102.9 FM Live broadcast encourages listeners to
phone the station with comments, reactions, & questions.
Visit www.umext.maine.edu/Waldo/Radio

Farmer-to-Farmer Conference

Friday - Sunday 8am - till dark
November 6-8 Point Lookout, in Northport
Farmers talk about what does or doesn't work; get new ideas
from university faculty, fellow farmers and others. Visit
www.mofga.org and click on Farmer-to-Farmer Conference
under **Upcoming MOFGA Events** for complete details or
the direct link is www.mofga.org/Programs/Events/FarmertoFarmerConference/tabid/293/Default.aspx

Low Impact Forestry Workshop

November 20 - 21
MOFGA Common Ground Education Center in Unity
This exciting hands-on workshop is a unique opportunity to
learn the latest in sustainable forestry management. Visit
www.mofga.org/Programs/Events/LowImpactForestryWorkshop/tabid/297/Default.aspx

We will be closed
Monday, October 12 for Columbus Day

Parents Are Teachers Too program

If you are expecting
or recently had your first baby,
call **1-800-287-1426** for more information
or to enroll in the **PATT** program
to help your child get the best possible start in life.

Eat Well program

Could you use help in stretching food stamps,
cooking and shopping for one or two,
providing snacks for children?
Contact UMaine Cooperative Extension
Eat Well Program for a Nutrition Aide to help you.

In complying with the letter and spirit of applicable laws and in pursuing its own goals of diversity, the University of Maine System shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, national origin or citizenship status, age, disability, or veterans status in employment, education, and all other areas of the University. The University provides reasonable accommodations to qualified individuals with disabilities upon request. Questions and complaints about discrimination in any area of the University should be directed to the Office of Equal Opportunity, The University of Maine, Room 101, 5754 North Stevens Hall, Orono, ME 04469-5754, telephone 581-1226 (voice and TDD).

Any person with a disability who needs accommodations for this program should contact Jane Haskell at
1-800-287-1426 to discuss their needs at least 14 days in advance.

DRYING VEGETABLES

Dr. Leonard Perry, Extension Professor, University of Vermont

Are you getting overrun with vegetables from the garden, and wonder what to do with them? Or, perhaps you are just looking for an easy way to preserve your produce or that from local farms and farmers' markets. In addition to freezing, drying or dehydrating is perhaps the easiest way to preserve vegetables. It is the oldest method, yet perhaps the least used.

Successfully drying vegetables depends on four factors: selection of produce at peak flavor and quality, blanching to stop decomposition and ripening, proper heat and drying conditions, and proper storage. Store cool, dry and dark as in a cellar, refrigerator, or if freezing use special freezer containers or bags made for this purpose. Other containers and bags may not be moisture-proof, resulting in shriveling and freezer burn. Dried vegetables, properly stored, last for 6 to 12 months. As they aren't quite the same taste and texture as fresh, they are best used in soups, casseroles, sauces and stews.

When produce is picked, enzymes are activated that result in decomposition. To stop these, blanching is used for many vegetables. This is merely boiling for short periods, time varying with the crop. Blanching by steaming, instead of boiling, will help to preserve more nutrients. Properly blanched, vegetables will be heated through but won't be cooked. Test a piece by cutting to see if it is cooked (translucent) nearly to the center.

An easy way to blanch is to place a quart of produce, once cleaned and washed, in the middle of a 2 or 3 foot square piece of cheesecloth. Gather the corners and immerse in boiling water, making sure water reaches all produce in the bag. Remove after the time suggested for each crop, immerse in cold water to cool quickly, for the same amount of time. Then drain on cloth or paper towels. Homebrew shops sell bags for grains that work well for this purpose too.

When blanching, you may wish to add some citric acid to the water to prevent darkening and to kill any harmful microbes. Use 1/4 teaspoon of citric acid to one quart of water. Most vegetables should be blanched for about 3 to 4 minutes. Use longer (5 to 6 minutes) for Brussels sprouts, cut corn, and potatoes. Use no blanching for herbs, onions, peppers, horseradish, and tomatoes.

Tomatoes should be dipped in boiling water for under a minute until skins split, then cold water to loosen skins and make peeling easy. Then slice or cut in sections, and soak for 10 minutes in one teaspoon of citric acid to one quart of water.

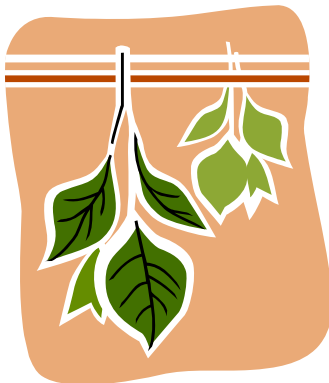


It is often easier to prepare vegetables as you would for cooking by cutting or slicing prior to blanching. Corn is easier blanched, then taken off the cob. To dry you may spread on trays in the sun, in the oven, or use a dehydrator. If using the sun, you really need about 3 days at 90 degrees (F) or above so the produce dries without molding first. This may be difficult in cool climates or summers. A solar method some use is to spread on trays and place in cars on the dash or back window ledges on summer days. If you get a cloudy day, though, and the produce isn't dry you may have to finish using another method to avoid spoilage.

If using an oven for drying vegetables, the key is to dry at the correct temperature: under 200 degrees (F), preferably around 140 degrees. Some ovens may not get this low. If too cool, produce won't dry properly or quickly enough. If too hot, they will cook instead of merely dry. Check every half hour to make sure the temperature is correct (an oven thermometer is useful), to allow moist air to escape, and to rotate trays for uniform drying. Make sure produce is no more than one half-inch deep on trays, or stir often. Keep about 2 to 3 inches between trays.

If using your own trays for drying, don't use galvanized screening as the metals in it can cause harmful reactions with acid foods. Aluminum may corrode and discolor with use. If using these, line with cheesecloth to prevent produce from touching the metal. Wash trays well between uses, and a light coating of spray cooking oil makes cleaning easier.

Thermostatically-controlled dehydrators can be purchased at many appliance stores, and are preferable as they use much less electricity and dry at the proper temperature, are convenient, easy, and not too expensive. Depending on the model, you may need to rotate trays during the drying process so all vegetables are dried uniformly. Herbs dry best with these, as they



only require about 110 degrees-- too low for most ovens. You may consider freezing herbs instead, as they will lose less flavor and oils than with drying.

Depending on your heat source and level, and water content of the crop, figure on 6 to 12 hours for drying. Less is needed for

parsley and herbs. Twelve or more hours may be needed for broccoli, Brussels sprouts, cauliflower, chili peppers, eggplant, squash, and some tomatoes. Drying in dehydrators goes fastest on less humid days and by not overloading the dryer.

To test for dryness, take a sample and allow to cool for a few minutes. When warm, produce feels soft and supple. Dried properly, it should feel crisp and brittle, although this varies some with the crop. Peas will be hard and wrinkled, spinach and greens will be crisp, herbs will be flaky, squash and eggplant will be leathery.

Keep in mind dried produce occupies much less space in storage than fresh: 15 pounds of carrots yield just over a pound of dried product or about 2 to 4 pints, for instance. For peas, 8 pounds fresh yield about one pint dried, for snap beans 6 pounds fresh yield about 2 and a half pounds dried.

In general, you might figure that one cup of dried vegetables will reconstitute to about 2 cups. To cook dried, leafy or tender vegetables (such as spinach, cabbage, or tomatoes), cover with hot water and simmer until tender. To cook root, stem and seed vegetables (such as carrots, green beans, peas and corn), first soak for 30 to 90 minutes in cool water or cover with boiling water and soak for 20 to 60 minutes. Then, simmer these presoaked vegetables until tender.

Whether you preserve vegetables by drying or other means, it enables you to continue enjoying varieties through the fall and winter you won't find in stores, can save you money, and you don't have to worry about safety issues knowing just where your produce came from.

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“cooked” to the proper temperature to kill the pathogens. Next year, if there are any surviving pathogens in the compost or on partially decomposed plants, they may be spread to living plants if the compost is used in the garden. ALL potato tubers should be dug and carefully washed and graded. If you leave any tubers behind in the ground and if they have a late blight lesion on them, it is possible they could survive the winter in the ground and give rise to a new infection next year. After you have examined your potatoes, discard any damaged ones as was done with the diseased plants.

If you are storing your potatoes for the winter be sure to examine them every couple of weeks. It could be possible that a small lesion or two may have been missed during washing and grading and could give rise to an infection in storage destroying much of your winter supply, just like in the 1840's!

You are now ready for next year's garden. Don't plant any of the saved tubers from your late blight potatoes from this year. You certainly don't want to infect your plants before you get started. Buy and plant certified seed to reduce your risk of planting infected tubers. You can plant your tomatoes and potatoes in the same spot you did last year and you shouldn't have any late blight problems as long as you cleaned up plant debris well. However, it is certainly good practice to rotate the crops in your garden as much as possible. Don't plant the potatoes in the same spot in your garden year after year. Also, do not rotate with related crops. For example, tomatoes should not be planted where your potatoes were last year.

Planting late blight resistant varieties is also an option. The thing to remember about resistance is that it does not mean immunity. Resistance means that the plant can resist to a point, in this case, the late blight fungus. However, if there is a great spore load from many infected plants, then even resistant plants can get the disease although not as badly as the susceptible ones. The other point to remember is that the fungus can mutate and the mutation may be able to overcome the resistance. There are some resistant potato varieties available to the backyard gardener such as Kennebec, Sebago, Allegany and Chieftain (a red-skinned variety). There are also some resistant tomato varieties, including Ferline, Fantasio, and Legend that are available. Good gardening!

New Publications!

Order publications at www.extensionpubs.umext.maine.edu or call (207) 581-3792
Download and print off many publications for free online!

Recipe to Market: How to Start a Specialty Food Business in Maine

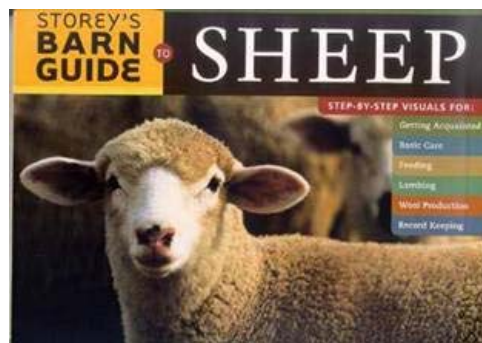
Item #3101

Do you have a recipe or food product that you'd like to produce for the retail market? Specialty food producers are on the increase in Maine, despite challenges that include licensing, food safety, and business skill-building. In this bulletin, UMaine food scientists who help entrepreneurs with testing and development answer the most commonly asked questions about starting a small food business in Maine. 5 pages, 2009

Storey's Barn Guide to Sheep

Item #1111

Raising sheep involves far more than choosing the perfect breed and training a herding dog. The successful sheep farmer must know how to maintain his animals' health and solve daily crises, large and small. Designed to accompany the farmer into the barn, Storey's Barn Guide to Sheep provides clear, step-by-step help, visible from several feet away. Oversized, heavy-duty pages illustrated. 96 pages, 2006. \$29.95



2010 Nutrition & Fitness Calendar

Item #9501

The theme for the 2010 nutrition and fitness calendar is "healthy and homemade." Features full-color photos. Each month of the 12-month wall calendar features an easy-to-prepare recipe emphasizing vegetables, fruits, whole grains, legumes, and dairy products. Every recipe includes nutritional information and menu ideas. 28 pages, 2010. \$4.95

Canning & Freezing Quick-Guides—Entire Series

Item #4380

Four 2-page bulletins listing basic preparation steps, times, jar sizes, etc. for canning and freezing commonly preserved vegetables and fruits. 8 pages total, 2009. \$1.75 for entire series

- #4381 Canning Fruits & Tomatoes in a Boiling-Water-Bath Canner
- #4382 Canning Vegetables in a Pressure Canner
- #4383 Freezing Fruits
- #4384 Freezing Vegetables

Options for Home Heating Fuels and Energy Systems - An Overview

Maine Home Energy series

Item #7217

This bulletin examines the pros and cons of home heating options including fossil fuels (oil, propane, and natural gas), renewable fuels (fire wood, pellets), heat pumps, and solar thermal heating. Alternatives and additions to public electric power in Maine, including photovoltaics, wind, and hydropower, are also discussed. Includes a detailed chart that ranks home energy options in terms of required installation costs and expertise, availability of service technicians, maintenance and operation, and many other factors. 8 pages, 2009. \$1.00

UMaine Extension Expert Offers Tips to Save What is Left of the Harvest

Richard Brzozowski, 780-4205 or rbrz@umext.maine.edu

The growing season of 2009 has not been a typical one. Weeks of cool temperatures, too much rain, disease and other problems have put a damper on many Mainers' hopes for a "bumper crop" of produce. Richard Brzozowski of the University of Maine Cooperative Extension offers the following list of actions people can take to eke out what's left of the gardening season:

- Think like your grandparents. Be resourceful. Don't give up.
- Some of the plants in your garden can still produce delicious fresh foods. Continue to carefully tend your garden by weeding, thinning, watering and managing pests. Harvest what you can. Finish the season well. Be aware of possible frosts and protect the tender plants that remain.
- Consider planting a fall garden of greens. You may need to construct a cold frame or temporary hoop house to "buy" some extra weeks of growing to allow your newly seeded crops a chance to produce. There are several crops that can produce edibles within 30-45 days. Consider radishes, beets, spinach, mesclun, lettuce, etc. For information on extending the growing season, visit <http://www.umext.maine.edu/> and download UMaine Extension's fact sheet "Extending the Gardening Season" or watch the video "Extending the Growing Season."
- Build the soil for next year's garden. Use the coming weeks to till new areas; amend areas with compost or farm manures; and have a soil test done to determine soil pH and the need for lime.
- Consider expanding your garden for next year. This is a great time to build some new raised beds; build or gather containers for next year's use; clear brush; level land; create paths; remove rocks; stockpile manure and compost. For information on raised bed and container gardening, download "Garden Equipment and Items to Make for the Maine Garden," part of UMaine Extension's container and raised bed garden fact sheet series or watch the video "Raised Bed Gardens" at <http://www.umext.maine.edu/>.
- If your garden was a complete failure, consider purchasing easy-to-store vegetables and fruits from local Maine farmers such as potatoes, rutabagas, turnips, beets, carrots, winter squash, apples, etc. To find farmers near you, visit the Get Real Get Maine Web site. You can search the site by county or product.
- Consider buying local produce to preserve by canning or freezing. If you need information about food preservation, contact your local UMaine Extension office or take one of our hands-on food preservation workshops or visit our Preserving the Summer Harvest Web site. A newly published and handy, 375-page book on food preservation from the University of Georgia titled "So Easy to Preserve" is available from UMaine Extension publication catalog, or check out the free "Let's Preserve" fact sheet series, all at <http://www.umext.maine.edu/>.

Learn from the situation. Make a list of things you could have done to minimize the impact of a cold and wet summer. Start making written plans for the next growing season.

October Garden Activities

- Sow cover crops of oats or barley in open areas of the garden.
- Prepare new garden areas by removing the sod or by layering newspaper (6-10 sheets), compost, and soil to an 8-10" thickness and leave in place until spring. The newspaper and sod should be well decomposed by planting time.
- Apply compost or manure to the vegetable garden. By applying in the fall, you reduce the risk of e. coli contamination.
- Fertilize your lawn. By applying now you will strengthen roots for a healthier, more robust lawn in the spring.
- Watch for fall webworm nests. These perennial pests create spider web type nests in trees and shrubs. Luckily, the defoliation that is caused by the caterpillars results in no permanent damage to the plants. To remove the nests, jam a stick into the nest and twirl like a cotton candy cone to pull the nest out of the tree.



Want To Know About Pesticides Sprayed Near Your Home?

New Pesticide Notification Registry Takes Effect

A new law took effect on September 12 that will provide a simple way to be notified about how, what, when, and where pesticides are being sprayed near your home. This public registry, a list of names and contact information, will allow interested parties to receive notification about outdoor pesticide applications made by airplanes, helicopters, mist blowers, or air-blast sprayers. The registry is required as part of LD 1293, *An Act To Require Citizen Notification of Pesticide Applications Using Aerial Spray or Air-carrier Application Equipment*, passed by the Maine State Legislature and signed by Governor Baldacci last June.

The law gives the Maine Board of Pesticides Control (BPC) the responsibility for developing and maintaining the registry, where any resident of property in Maine can be included, free of charge. According to the law, anyone on the registry located within 1,320 feet (one-quarter mile) of an area being sprayed will have to be notified at least 24 hours, but not more than seven days, before a pesticide application by air or air-assisted equipment is to be made.

To be placed on the 2010 registry, names must be submitted by March 15, 2010. The registry will be made available to pesticide applicators no later than April 1, 2010. Names will remain on the registry until the BPC is notified in writing to remove a specific listing, or until it is determined that a contact is no longer valid.

To sign up on the registry, go to the BPC website, www.thinkfirstspraylast.org, or contact the BPC at 207-287-2731 for a registry application form.

The Maine Board of Pesticides Control is the lead state agency for pesticide regulation. It is an administrative unit of the Maine Department of Agriculture, Food and Rural Resources, with policy decisions made by a seven-member, public board.



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