

'Late blight and other important diseases of tomato in the home garden'
Webinar
July 2, 2009

Chat Room Question and Answers

Hosted by Rutgers and Cornell University Cooperative Extension

Moderators:

New Jersey Agricultural Experiment Station, Rutgers University

Steve Komar, County Agricultural Agent, Sussex County, New Jersey

Bill Bamka, County Agricultural Agent, Burlington County, New Jersey

Wesley Kline, County Agricultural Agent, Cumberland County, New Jersey

Andy Wyenandt, Extension Specialist in Vegetable Pathology, Rutgers University

New York Agricultural Experiment Station, Cornell University

Margaret T. McGrath, Vegetable Pathologist, LIHRC, Long Island, New York, Cornell University

Moderator (Steve): the presentation will be available online as a recorded presentation.

This webinar can be found on-line at the following link:

<http://njveg.rutgers.edu/html/in-news.html>

Please follow the instructions on your screen and let the Elluminate Live! software and Java download to your computer. Please make sure the volume on your computer is up. The Webinar starts on slide #3 (the first slide you will see on the screen will have poll question #3 on it).

richard: is a very wet year like this make it just right for blight?

Moderator (Wesley Kline): Richard: Yes

ilona 2: do insects, eg. whiteflies, play a role in spreading disease?

Moderator (Wesley Kline): ilona 2: Not in the case of late blight. Some insects such as aphids can spread viruses and other insects such as cucumber beetle can spread bacterial wilt in cucurbit crops.

Nancy Heraud: Can plants be infected from other plants through the air?

Moderator (Wesley Kline): Yes, pathogen's (ie. spores) are spread via wind currents, splashing rain drops, etc.

bill w: are diseases more prone at lower altitude or higher altitudes?

Moderator (Wesley Kline): Bill W: Altitude is not a factor, and disease can occur at either.

Rachel: Have these diseases begun to appear in North Jersey?

Moderator (Wesley Kline): Yes!

ilona 2: i use mushroom compost. Does it have a propensity to harbor disease?

Moderator (Wesley Kline): Joe O: Adding compost will help the soil for fertility, but will not stop late blight. Solarization will help if the soil gets sufficiently hot.

richard: should i put diseased plants in my compost bin?

Moderator (Andy Wyenandt): All infected plants should be removed from the garden! Infected plants, no matter what the pathogen, can act a source of inoculum for more disease development. In many cases, putting plants in the compost bin away from the garden is sufficient. In the case of some diseases, such as Late, infected plants should be put in a plastic bag and sat out in the sun to to kill the plant and the pathogen!

JimR: Are there going to be any photos showing what the various diseases look like on the plants?

Moderator (Andy Wyenandt): Yes, there are plenty of pictures to help you learn how to diagnose important tomato diseases in this webinar.

bill w: can you spread disease by throwing plants into streams

Moderator (Andy Wyenandt): Certain pathogens can definitely survive in water/moving water.

NJTMATA: Are there any favorable mulches that may help to reduce the splash of spores and disease?

Moderator (Andy Wyenandt): Mata: we will talk about mulches in the webinar.

Joe O: Having limited space what recourse do I have in limited crop rotation for tomatoes (besides using containers)

Moderator (Wesley Kline): Joe O: It is difficult to rotate in a small space. Containers are one option. At least do no plant the same crop in the same place each year.

Moderator(Andy Wyenandt): Even if you can only rotate to the other end of the garden, you should do so.

turkeyhunter: Is the blight affecting anything other than tomatoes right now?

Moderator (Andy Wyenandt): Late blight is also infecting potato crops throughout the NE region!

gcking: Can you spread the disease on your hands?

Moderator (Wesley Kline): Gcking: You can spread the disease on hands, clothes, tools etc.

Chris Reid: Can recycled plastic mulch act as a blight transmitter?

Moderator (Andy Wyenandt): No it can't.

JimR: Is oak or maple tree mulch good for tomatoes?

Moderator (Andy Wyenandt): Shade tree leaves should have no affect on your tomatoes. In general, leaf mulches tend to tie up nitrogen for a short time period, so you might have to apply more N at the beginning of the season. Overtime, the leaf mulches will add organic matter back to your soils and increase your overall soil fertility. At the end of the season work the leaves into the soil as best you can.

Moderator (Wesley Kline): JimR: Oak and maple mulch is fine

bigbill: My tomato plants in my garden now were started indoors from seed so I should be O.K. as far as blight goes ...Correct?

Moderator (Andy Wyenandt): Yes, as long as Late blight doesn't come in from another source (i.e. your neighbors garden).

Moderator (Wesley Kline): bigbill: It does not matter where the plants were grown if you have late blight in the area.

Joe O: Can amending the soil with compost help limit blight early on or do I need to solarize for a season?

Moderator (Andy Wyenandt): Compost will help increase the 'health' of your soil (ie. competition amongst microbes). The more competition the better!

NJTMATA: Can late blight be transmitted through seed potatoes?

Moderator (Wesley Kline): NJMATA: Yes, late blight can be transmitted through seed potatoes

Moderator (Andy Wyenandt): NJTAMA; Yes, potato seed pieces can harbor late blight

Marge: Are stem lesions always present?

Moderator (Andy Wyenandt): Marge: stem lesions typically accompany leaf lesions

Moderator (Wesley Kline): Marge: Stem lesions are not always present at least in the beginning

Chris Reid: Are there any root symptoms from late blight or will they look clean?

Moderator (Andy Wyenandt): The roots would look clean.

Joe O: Is that (solarization) realistic in NJ?

Moderator (Wesley Kline): Joe O: solarization in New Jersey is very difficult. It would only work if you were do it in late July and August

ilona 2: what is the pathogen that causes yellow leaves with brown spots that eventually causes the leaves to die and moves from base upward on the plant. Clearly dampness related.

Moderator (Andy Wyenandt): ilona: sounds like early blight

ilona 2: It starts with brown spots and then spreads rapidly thru the tomato patch and leaves die, but it doesn't affect fruit, though the plant dies. It usually hits later in the season, but is early this year.

Moderator (Andy Wyenandt): ilona, that could be septoria leaf spot, we will cover that later!

Louellasgirl16: If my patio tomatoes purchased at a box store are healthy now, what are the chances late blight will show up later if they are, in fact, infected?

Moderator (Wesley Kline): Louellasgirl16: If your plant looks clean right now you maybe alright, but check your plant weekly basis especially during periods of wet weather.

NJTMATA: I have recently noticed small brown lesions that you show in your pictures but my leaves are yellow with brown spots could this be late blight?

Moderator (Andy Wyenandt): It could be a number of things (i.e. Early blight, Septoria leaf spot, bacterial disease). We will cover these in the webinar.

bigbill: Blight spores are blown from an infected garden to a clean garden causing infection?

Moderator (Andy Wyenandt): bigbill, yes, it (ie. the spores) can move from an infested garden to a healthy garden via wind

Jocelyn: are some tomato varieties more susceptible to late blight?

Moderator (Andy Wyenandt): Jocelyn: are all equally susceptible

sharon144: are there other diseases with similar symptoms?

Moderator (Wesley Kline): Sharon144: You may confuse early blight is some cases, with Late blight or other diseases that is why learning to recognize the symptoms of each disease is so important.

gcking: are leaf spots ever yellow?

Moderator (Andy Wyenandt): Some chlorosis (or yellowing) around the margins of lesions accompanies diseases such as early blight and septoria leaf spot, as well as, bacterial lesions on leaves.

Jenn Walker: will there always be stem and leaf symptoms as well as fruit symptoms

Moderator (Wesley Kline): Jenn: It depends on how severe the infection and when it occurred

Marge: What would you see with a hand lens?

Moderator (Wesley Kline): Marge: If looked on the bottom of the leaf the late blight spores would look white to gray.

Joe O: Can a plant get both Late and Early blight?

Moderator (Andy Wyenandt): Yes!

BlightSeminar: Does blight cause the tomato leaves curl up?

Moderator (Wesley Kline): BlightSeminar: No, generally, leaf curl is variety dependent and is usually caused by stress on the plant. (ie. too much or not enough water)

Chris Reid: Are there other diseases that have similar stem lesions and similar colored leaf lesions? Are any of the bacterial wilts easy to confuse?

Moderator (Andy Wyenandt): Late blight lesions are distinct. The common bacterial diseases (ie. spot and speck) produce similar lesions on infected leaves.

ilona 2: does rapid identification and pruning the diseased areas help?

Moderator (Wesley Kline): ilona2: rapid ID helps for any disease, but pruning probably will not help. As Meg said the best thing is to remove the plant

jlfoutz: How do you destroy the infected plants?

Moderator (Wesley Kline): Jlfoutz: The best thing is to remove them from the garden and put infected plants in a plastic bag. The worst thing is to leave infected plants in the garden

Redheadedgardengirl: If I have one small green fruit that has been hit by late blight, does that mean I'm going to lose my whole plant? Or will I have a pretty good chance of not losing my whole plant?

Moderator (Wesley Kline): Redheadedgardengirl: If you have fruit infected with late blight you will probably lose the plant

Lorraine & Alan Weiss: what's the difference between early and late blight

Moderator (Andy Wyenandt): Lorraine: we will show you in the webinar! Both diseases produce distinct symptoms on infected tomato plants!

Carol Fucci: should you destroy all of the plants in a home garden if this is diagnosed on one plant?

Moderator (Wesley Kline): Carol Fucci: You should remove the infected plants and two or three on each side.

Moderator (Andy Wyenandt): You should also scout on a daily basis looking for symptoms of the disease.

sam: are heirlooms less affected

Moderator (Andy Wyenandt): sam: no

Moderator (Wesley Kline): Sam: heirloom tomatoes are as susceptible as any other variety

Steve and Jean: Are there organic fungicides that can be used?

Moderator (Andy Wyenandt): Copper fungicides may help suppress diseases, but in many cases, such as for late blight control, it would be of marginal use.

Kenny: I think black walnut trees were hurting my tomatoes

Moderator (Andy Wyenandt): Kenny, walnuts produce a chemical that interferes with plant growth of other plants!

Chris Reid: Andy, the photos of walnut damage and info on it says the lesions can be similar to some other wilt diseases. Distinguish?

Moderator (Andy Wyenandt): Chris, the exact cause may be difficult to distinguish. If you have walnut trees near your garden (tree roots can extend three times the length of the drip line (or the outer edge of the canopy) then the walnut tree(s) maybe causing some issues.

Moderator (Andy Wyenandt): Chris, we'd have to look at it to make a determination. You could submit a sample to your local county agent or state plant diagnostic clinic.

Moderator (Andy Wyenandt): More information on this can be found at the following link:

<http://ohioline.osu.edu/hyg-fact/1000/1148.html>

Chris Reid: Are there any root symptoms? I have some hit tomatoes with clean roots and trying to ID the problem. Leaves definitely brown spots not yellow/brown.

Moderator (Andy Wyenandt): Chris Reid, No, other phytophthora's cause stem and root rots.

Moderator (Wesley Kline): Chris Reid: There are no root symptoms

BlightSeminar: Can you burn the plants or will it spread the spores?

joene: will burning destroy the pathogen?

Moderator (Wesley Kline): BlightSeminar: Yes and Yes, Burning is fine

bill w: what's solanaceous

Marie: Please define solanaceous weed

Moderator (Andy Wyenandt): Crops such as tomato, pepper, potato, eggplant and weeds such as nightshade belong to the Solanaceous family. So, in general, when we refer to solanaceous crops or weeds, we are referring to tomato, pepper, potato crops or solanaceous weeds.

Jason Barnes: can i replant a tomato plant in a hole that has already had a tomato plant that was infected by TMV?

Moderator (Wesley Kline): Jason: Yes, you can if you are sure it was TMV and not something else.

lpward: can the home owner use chlorothalonil?

Moderator (Andy Wyenandt): lpward; yes, you can buy it at the garden center under different trade names. Check the active ingredient to make sure it is chlorothalonil on the label, most likely, different brand names will have different percentages of chlorothalonil. In any case, pick one that has the crop and disease you are interested in controlling on the label.

Moderator (Wesley Kline): lpward: Yes, chlorothalonil is available to home owners

Paul: I am a professional grower can you give us some names of those fungicides

Moderator (Andy Wyenandt): Paul, check with your local extension office, you will need a license to apply commercial products!

Moderator (Wesley Kline): Paul: Curzate, Revus, Previcur Flex, Gavel, Forum and Ranman are commercial products and require a license to apply. To obtain information on how to get a license contact your local county extension office. For 99.9% of all homeowners, this would be unnecessary.

Roslyn: are tomatillos affected?

Moderator (Wesley Kline): Yes

JimR: Are butternut squash plants affected by late blight?

Moderator (Andy Wyenandt): JimR: No! they are affected by another *Phytophthora* called *Phytophthora capsici* which is a very common soil-borne disease.

maria blakeslee: Are fungicides safe to use?

Jenn Walker: We have kids and a dog. How safe is fungicide?

Bonnie Panighetti: How safe is chlorothalonil to use? How about copper?

Moderator (Andy Wyenandt): The fungicides you can buy over the counter are safe to use, but there are always precautions that need to be taken. You need to read the label well and educate yourself on how to apply them correctly and safely. Remember, the label is the law!

Gramma Greenjeans: We sprayed fungicide yesterday, but it rained last night. Can we wait another week or should we spray again tomorrow? (It was Daconil).

Moderator (Andy Wyenandt): You should always follow what is on the label. Remember the label is the law!

Deb C: any options for organic gardeners?

Moderator (Andy Wyenandt): Organic growers have much less options than conventional growers. Copper fungicides in general help suppress bacterial pathogens. Sulfur is good at suppressing powdery mildews. Potassium bicarbonates act as disinfectants by killing what they come into direct contact with. There also the organic 'teas' which may help suppress pathogens. What I like to tell Master Gardeners, if a product sounds 'too good to be true', it probably is and isn't something you want...

Beth B: What do you think of neem oil as a fungicide?

sam: is the copper the same as bordeaux mix

Moderator (Andy Wyenandt): Sam: no! Copper is mostly likely the copper hydroxide formulation and Bordeaux mixture is a combination of copper sulfate and hydrated lime.

sam: thank you

Chris Reid: Please talk about difference between lesions of bacterial wilts and late blight?

Moderator (Wesley Kline): Chris Reid: Once you see late blight you will not confuse it with other diseases.

Moderator (Wesley Kline): With Early blight generally you will see brown lesions with dark concentric circles. Late blight generally starts on the margins of the leaf and looks water-soaked (greasy) in humid weather.

Moderator (Wesley Kline): Chris Reid: The wilts that affect tomatoes are Fusarium and Verticillium not bacterial wilt. There are resistant varieties for those. Look to see if one side of the plant is wilting that would indicate one of the wilts.

lpward: Will there be a Rutgers fact sheet that will be available on this?

Moderator (Andy Wyenandt): lpward: Yes, we have fact sheets on tomato diseases are available on -line at the NJAES website!

<http://njaes.rutgers.edu/pubs/publication.asp?pid=FS547>

NJTMATA: Have large growers been notified about late blight and are taking action?

Moderator (Andy Wyenandt): NJTMATA: Yes, they have!

NJTMATA: I mean the growers like Bonnie who have their products sold at Big Box Stores

Moderator (Andy Wyenandt): NJTMATA: Oh Yes!

noah 1: bonnie plants has known about the blight for several weeks and have taken responsibility for the problem

Gramma Greenjeans: Same anthracnose pathogen that occurs on my dogwoods and sycamore?

Moderator (Meg McGrath): no, the anthracnose that attacks ornamental trees is different from the anthracnose that attacks tomatoes.

bigbill: This is great...Im getting a college education for free....

Ellen Weeks: How many years before you can replant tomatoes in the same spot on a good rotation?

Moderator (Wesley Kline): Ellen Weeks: You need to make sure all plant material is broken down and then rotate out for three years, if possible. The longer the better!

turkeyhunter: has late blight shown up in any commercial tomato or potato fields?

Moderator (Meg McGrath): yes, Late blight has been found in both up and down the NE.

Lorraine & Alan Weiss: how to I dispose of tomatoes infected with anthracnose?

Moderator (Meg McGrath): I put infected tomato fruit in trash rather than in the compost pile

Carol: what is the causal agent of early blight?

Robert Ecker: Why is it called "early" blight?

Early blight is caused by the fungal pathogen, *Alternaria solani*, and it tends to show up 'sooner' than the other diseases.

Chris Reid: Can early blight be spread by recycled unsanitized red plastic mulch or cages?

Ipward: Can any of these disease remain on the stakes or tomato cages? How should we clean them at the end of the season?

Moderator: (Andy Wyenandt): Any time you have soil/organic matter remaining on stakes or cages after use there is a possibility of pathogens being harbored. You should at least try to remove as much of the soil off of stakes/cages at the end of the season as you can with a wire brush or by power washing them.

Afterwards, if you wanted to, you could soak wooden stakes in a 10% Clorox bath for an hour or so then rinse them off thoroughly before storing them.

JudyV: Does the same fungicide kill/prevent all of these?

Moderator (Meg McGrath): chlorothalonil controls many diseases. It is considered a protectant fungicide useful against a number of diseases.

Moderator (Andy Wyenandt): It depends on the fungicide's active ingredient, fungicides, like chlorothalonil, are active against a number of different pathogens. Other fungicides can be more specific in what they control. It's always important to look at what the fungicide is labeled for and what its active ingredient is!

rehoboth: Are these fungal diseases systemic or strictly topical?

Moderator (Andy Wyenandt): It all depends on the fungal disease. Some diseases are, such as Fusarium and Verticillium wilt and viruses which affect the vascular tissue. Others are not, such as septoria leaf spot and powdery mildew. Some pathogens may start out as leaf spots, such as Late blight, and then begin to work its way into stems, but it is not truly systemic.

Beth B: What do you think of using neem oil as a fungicide?

Moderator (Meg McGrath): I've gotten control of powdery mildew with neem oil

McLieberman: What's the best treatment to your soil prior to planting on preventing/eliminate most of these disease problems? (I don't have enough mulch to cover everything)

Moderator (Wesley Kline): McLieberman: Make sure all the plant material from last year is broken down. Eliminate weeds.

Chris Reid: What about *Bacillus subtilis* on fungal diseases (e.g. Serenade)?

Moderator (Andy Wyenandt): Chris R: Biologicals, at best, only provide suppression of disease. They are a good option for organic growers, as well as, for commercial growers in certain situations.

JudyV: How late in fruit development is it safe to use chlorothalonil so that you don't end up eating it? (absorbing into the fruit)

Moderator (Andy Wyenandt): JudyV: it shouldn't enter the fruit. Just make sure you wash all fruit properly.

Kevin Granville: I missed the beginning ...can I "replay" the webinar later?

Jenn Walker: my connection dropped and I missed about 5 minutes. Is there a pdf on this information?

Yes, the webinar and other information can be found at the following link:

<http://njveg.rutgers.edu/html/in-news.html>

ilona 2: is there a fall/spring treatment of the soil that we should consider? e.g., cover with tarp and cook?

Moderator (Wesley Kline): ilona 2: fall is probably too late to 'solarize' the soil and it is difficult in New Jersey. The best thing is to clean up the garden at the end of the season.

Moderator (Wesley Kline): ilona 2: no there is no soil treatment for late blight control

Rachel: how far apart should plants be spaced apart?

Moderator (Andy Wyenandt): Rachel, good enough to allow for air circulation. If they look crowded, they probably are!

Moderator (Wesley Kline): Rachel: 18 - 24 inches

Jason Barnes: does powdery mildew air borne also?

Moderator (Andy Wyenandt): Jason, yes it is!

Jason Barnes: thanks

JudyV: If diseased plant material is turned underground, will they die or resurface? Will the bacteria doing the decomposition kill them?

Moderator (Wesley Kline): JudyV: If you turn the plant material completely under the soil in the fall it will decompose and help kill the organisms

JimR: If you see it on lilac plants, can that effect tomatoes?

Moderator (Wesley Kline): Powdery mildew on cucurbits won't infect lilac, and visa versa

Moderator (Wesley Kline): JudyV: the split fruit maybe a soft rot disease, over watering can cause it or if left on the vine too long.

NJTMATA: A company offers a soil borne disease inoculant to prevent or "help to rid soils" of soil-borne diseases does this or can this really work?

Moderator (Andy Wyenandt): My words of wisdom are for any product: 'If it sounds to good to be true, it probably is'

McLieberman: please provide a link to the Cornell table please

Moderator (Meg McGrath): search 'vegetable MD online' with Yahoo or Google

JD: Does spraying a cage with a Clorox mixture or something similar help.

Moderator (Wesley Kline): Max: You should clean all tools especially if you have disease problems in the garden.

Moderator (Wesley Kline): Max Bouve: It is a good idea to clean your tools after use in case there is soil on them since organism may be in the soil

Moderator (Wesley Kline): JD: You should first remove any plant material on the cages then soak them not just spray them.

turkeyhunter: If the weather pattern breaks, doe' that mean I will be ok or do I still need to look and spray my plants?

Moderator (Meg McGrath): You should continue to scout for disease!

bill w: how soon after using fungicide can you harvest fruit

Moderator (Wesley Kline): bill W: check the label which will tell you how many days to harvest

Deb C: What fungicides are OK for an organic gardener to use?

Andy Wyenandt (Moderator): Coppers, Sulfurs, Organic 'Teas' all have organic labels. There is a lot of information on the web about fungicides for the organic gardener.

fred: What is NJAES web site?

The New Jersey Agricultural Experiment Station (NJAES): <http://njaes.rutgers.edu/>

NJAES Vegetable On-Line Resource Center: <http://njveg.rutgers.edu/>

BlightSeminar: Potassium Bicarbonate - this is 85% of the Fungicide I purchased - is it good for early or late blight - or just for powdery mildew

Andy Wyenandt (Moderator): Powdery mildew

Steve and Jean: how long can anthracnose, early and late blight spores remain viable in the soil? How many years?

Moderator (Andy Wyenandt): Steve and jean, up to 8 yrs for anthracnose! Early blight can survive on infested plant material. Late blight will die out with the tomato crop, however it can survive on infested tubers if they are left in the field.

Chris Reid: Wesley Kline: Are the brown leaf lesions diagnostic of late blight versus other diseases? i have clean roots, brown stem and leaf lesions, and wilt.

Moderator (Meg McGrath): yes, Chris the symptoms you describe could be late blight.

Moderator (Meg McGrath): Roots indeed are not affected. Good point.

Chris Reid: Meg: In face of late blight like symptoms, are there any further checks to rule out any other possibilities?

Moderator (Meg McGrath): Chris. compare your symptoms to what you see here and on the web. Take to a diagnostic lab. Or send me photos.

Jenn Walker: when cleaning tools/tomato cages, is it necessary to use a cholrox mix, or just straight water?

Moderator (Wesley Kline): You should use a 10% clorox solution dip when cleaning cages/tools followed by a good rinse with tap water.

Nancy Heraud: Can powdery mildew of phlox affect tomatoes?

Moderator (Meg McGrath): no phlox and tomato mildews are different.

sharon144: should we be using fungicides on potatoes as well?

Moderator (Wesley Kline): yes, if Late blight is in the area.

turkeyhunter: is there a translaminer treatment for bacteria after it gets inside the plant?

Andy Wyenandt (Moderator): Unfortunately, no.

lpward: Does pruning tomatoes help with reducing the susceptibility of the tomato plants to diseases

Moderator (Andy Wyenandt): Pruning may help improve air circulation and reduce the chances for disease development.

Moderator (Wesley Kline): lpward: pruning will improve fruit size and improve air drainage which will help for disease control.

Kenny: Does metal stakes like rebar poles help with growth -vs- wood stakes?

Moderator (Wesley Kline): Kenny: It really does not make a difference

bill w: i use straw for mulch. Can pathogens be transmitted in poor straw mulch

Moderator (Wesley Kline): bill W: the big problem with straw mulch is if the soil stays too wet. Other than that it is fine.

catherine: Do you recommend trimming off the bottom leaves of the tomato plants?

Moderator (Wesley Kline): Catherine: You can remove the lower leaves, but do not remove too many. Remove only the leaves that are turning yellow or just the ones touching the soil surface.

Rachel: Do shredded maple leaves make a good mulch? How should I fertilize then? Could certain fertilizers encourage pathogens? You mentioned nitrogen

Moderator (Wesley Kline): Rachel: shredded leaves are fine to use. To fertilize, move back the mulch and apply the fertilizer directly to the soil surface. If you over fertilize with nitrogen you get too much plant growth which will reduce air movement around the plants

Moderator (Wesley Kline): JimR: blossom end rot is from a lack of calcium, but it really is because the calcium can not move up it the plant fast enough. This can be the result of too much or too little moisture.

Moderator (Andy Wyenandt): JimR, BER is caused by a calcium deficiency

laurie: The label of the fungicide I used says to wait 7 days to harvest potatoes and 0 days to harvest tomatoes. This doesn't make sense to me when the potatoes are underground and not sprayed, while the tomatoes are. Can you explain?

Moderator (Andy Wyenandt): Days to harvest guidelines are based on the residual activity of the fungicide, the crop be sprayed and how that crop will be sold/eaten.

JimR: Are ashes from a wood stove good for use in the garden?

Moderator (Wesley Kline): JimR: yes you can put wood ashes on the garden

sam: Thankyou for the class!!

Rob Sherman: thanks, very good

Ashley: What is the spread of recorded late blight in the north east right now?

Andy Wyenandt (Moderator): Late blight has been found on potato and tomato throughout the NE.

Sid BP: Thank You

McLieberman: what about manure effectiveness? ...Horse vs Sheep vs Steer vs Rabbit

Moderator (Wesley Kline): McLieberman: manure is great for organic matter and to improve the soil.

turkeyhunter: Good presentation, thanks

bill w: i hope you have more classes like these. please let penn state know to alert master gardeners. this was great. good job to all!

turkeyhunter: Is there anything I can put on my tomatoes once they are infected with bacteria?

Moderator (Meg McGrath): you cannot get rid of bacteria in the plant. Control is most important before symptoms seen.

B. Green: Should you remove the mulch every year also if you know you have one of these diseases?

Moderator: (Andy Wyenandt): B. Green, No, you should work your mulch into the soil at the end of the season to help break it down and improve the organic matter of your soil.

Louellagirl16: Thanks for a great presentation. It has been very educational.

Ipward: Does late blight look the same on potato plants?

Moderator: (Andy Wyenandt): Yes, the symptoms look similar on the leaves and stems.

maureen greiner: Thank you, very informative.....from a Sussex County Master Gardener

McLieberman: This was a very KEWL presentation

JudyV: This has been very helpful--I'll be able to speak a little more intelligently this year when they start to look "icky".

Ashley: What do you estimate the current spread of late blight is? (How far north/west)

Moderator (Meg McGrath): Late blight occurrence now - has been found in every state in northeast. We do not know how widespread yet.

Moderator (Meg McGrath): Late blight is west to OH and north to ME.

Sara Roth 1: Thanks for the presentation, very informative

Charlie Farrell: Thank You for such an excellent informative session

Marla Jackson: Thank you! This was great. I will be much better prepared for those helpline questions.

Lorraine & Alan Weiss: very helpful, great presentation, thanks

theirislady: what % clorox should be used to treat seed; how long?

JD: I was late joining. What percentage of clorox do you suggest

JD: I do the clorox treatment but the percentages seem to vary from site to site. I grow heirlooms from many sources and noticed a big improvement after using the clorox mix this year

Please check out the following from Cornell University on Clorox treating seeds!

http://vegetablemdonline.ppath.cornell.edu/NewsArticles/All_BactSeed.htm

Nancy Heraud: Thank you so much for doing this. It was very informative!

Ipward: As a Master Gardener (in training) in Mercer County, this has been *very* helpful.

bill w: do fungicides harm pollinators

Moderator (Wesley Kline): bill W: fungicides do not harm pollinators

Moderator: (Andy Wyenandt): Insecticides can. You should only spray insecticides in the early morning or late evening when the bees are not foraging.

McLieberman: do most seed sellers irradiate their seeds? DO they have regulations or laws on preventing seed carrying diseases?

Moderator (Wesley Kline): McLieberman: seed sellers do not irradiate seeds. There are seed laws in each state which are a little different.

Moderator: (Andy Wyenandt): Most commercial seed is clorox treated. It should say on the packet if it has been treated. Don't be afraid to ask.

Chris Reid: Many thanks for a timely opportunity to have an exchange with specialists. Much better than googling!

Kenny: I see Ramapo seeds and plants are becoming more popular again!

Moderator: (Andy Wyenandt):Yes, they are! For more information check out the link below!

<http://www.njfarmfresh.rutgers.edu/JerseyTomato.html>

trb: Where is the best place to learn about future webinars ? This has been great!

Future webinars will be posted on the NJAES calendar at the following:

<http://www.events.rutgers.edu/njaes/>

and promoted by county extension offices

Louellasgirl16: My tulip poplar tree usually gets powdery mildew. Should I use these as a mulch or put in compost pile?

Moderator: (Andy Wyenandt): Yes, you can them as a mulch in your garden, shade tree leaves in general are good to use as mulches in the home garden. Powdery mildews are always specific to their host.

Nancy Heraud: Should we be using clorox on our stakes?

Moderator: (Andy Wyenandt): You can dip your stakes in a 10% Clorox solution for 45 to 60 minutes followed by a good rinse before storing for the winter. Remember to remove as much of the organic debris from the stake as possible before dipping. Organic matter can tie up the chlorine in the solution making it less available.

turkeyhunter: will there be a printable version of your presentation?

Moderator: (Andy Wyenandt): Yes, the print version is available at the following link.

<http://njveg.rutgers.edu/html/in-news.html>

Jenn Walker: Thanks so much! This was great. The Butler County Master Gardeners are doing a tomato table at the Farm Show this year. Very informative, and timely. Thanks again.

BlightSeminar: Thank you for a very informative program. Easily understood and not too technical. Please consider doing a program on cucumbers/squash problems. Any program on garden vegetables would be appreciated. I have enjoyed this seminar and hope you do more?

McLieberman: thanx... you guys are great!

Steve and Jean: This was great. Please do more of them. We are Penn State Master Gardeners and enjoyed the information.

cindyp: This was very informative. Thank you very much, I look forward to more webinars.

Jim Bennett: This was great! Thanks. I look forward to many more.

joene: thank you for the seminar.

Carol Fucci: this is a great vehicle for spreading accurate information!!!Thanks!

Margie: if you have blight does it mean you will lose all your plants sorry if this question has already been asked I came in late

Moderator (Andy Wyenandt): Margie: there's a good chance because it is very difficult to control

theirslady: Thank you, this info will be very helpful on our Master gardener hotline !

bill w: this would be a good format for Master Gardening classes; saves on gas

Margie: I have a lot of yellowing on my plants does blight have yellow color

Moderator (Wesley Kline): Margie: yellow leaves do not necessarily mean late blight it could be nutritional or other problems

Moderator (Andy Wyenandt): Margie: Late blight turns the leaves a darker green and has a greasy appearance under wet conditions.

Jenn Walker: This is how Butler Co MG does their classes

Roslyn: do you think the fungicides are effective enough, if used properly, to prevent the spread of late blight spores from fairly nearby?

Moderator (Andy Wyenandt): Roslyn: Fungicides can help suppress it, you will need to stay on a strict schedule

Carol Fucci: Not a good format for MG training. No networking!!!!!!!!!!

Jenn Walker: We use this for the core classes, and the non-core classes are done by local experts

diane: great information very helpful will be looking forward to the next one. i am new master gardener
this will be very helpful for our hot line thanks again .

Steve and Jean: Are plants with bacterial canker, spot and speck okay to eat?
Moderator: (Andy Wyenandt): yes, they are.

JD: Thanks

Marie: Excellent! Thank you all very much.

Chris Reid: Does late blight have an ooze coming out of stems?

Moderator: (Andy Wyenandt): No, it doesn't.

McLieberman: thanx

Chris Reid: Will stems be hollow in late blight?

Moderator: (Andy Wyenandt): No, they won't, you might have timber rot AKA white mold. Look for a
white fungal growth on the stem tissue and small black fruiting bodies (what we generically call mouse
poop)

Margie: thank you

Moderator (Andy Wyenandt): Chris Ried: No, that could be timber rot, look for white moldy growth
coming out of stem and large black fruiting bodies (sclerotia) which look like mouse droppings.

NJTMATA: As a MG of Burlington County NJ this has been a great seminar I see great opportunity for
more. This has been a really fun and educational "webinar" and it was Cheep!

LindaWoods725: Thank you very much!

NJTMATA: Would you consider doing a webinar during the day hours?

Moderator: (Andy Wyenandt): We will most likely do them in the evening. However, the webinars will
be available on the web at anytime.

Gramma Greenjeans: Thanks!

talexander: thank you very much looking forward for others

JD: Thanks so much. Great material and presentation

JD: Looking forward to the future

lpward: Are there any insects that are vectors for late blight?

Moderator: (Wesley Kline): No, there are not.

McLieberman: will you be providing an article with this presentation on both Rutgers and Cornell websites?

Moderator: (Andy Wyenandt): yes, we will

Michele: As a Monmouth County, NJ MG this should be very helpful.

Linda&Carl: What are the implications for these diseases for container gardening?

Moderator: (Andy Wyenandt): You want to be aware that plants grown in containers can be just as susceptible to disease as those grown in the ground.

Moderator (Wesley Kline): Margie: You may lose all the plants. You need to check them weekly and remove any that has late blight

Bruce Hoffman, MGOSH: Thanks for a great, informative experience. I liked the fact that you were able to select and answer the questions that were informative and not the less relevant ones.

bigbill: Thanks a million guys.....this was extremely educational for me....

CarolMcMullen: Laura Ann: This was REALLY helpful to me!!

NJTMATA: Yes, this was very helpful and it will help on the helpline for questions from residents.

maria blakeslee: Great presentation, thanks!

NJTMATA: Great I think more folks would attend who are MGs.

NJTMATA: This has been really great thanks Moderators for putting this together. Good night and safe holiday.

Chris Reid: I am seeing hollow stem, cankers, ooze in the stems, wilting, clean roots. This (based on ooze and hollow stem) is not late blight?

Moderator (Wesley Kline): Chris Reid: If it is not on the leaves it probably is not late blight

Carol Fucci: I will do my part to spread accurate information as a BC MG. Thanks and good night.

Margie: how far away can blight spread

Moderator (Andy Wyenandt): depending on the weather conditions, Late blight can spread some distance in a relatively short time period.

trb: I am a small commercial grower in NH and learned of this webinar through UMass Vegetable Notes. It would be great if this type of presentation could be expanded and available through extension services throughout the northeast.

Moderator (Andy Wyenandt); We will do our best to get the word out on future webinars!

Chris Reid: GREAT JOB GUYS!

lpward: Thank you all. This has been great.

turkeyhunter: Enjoyed the presentation thanks again.