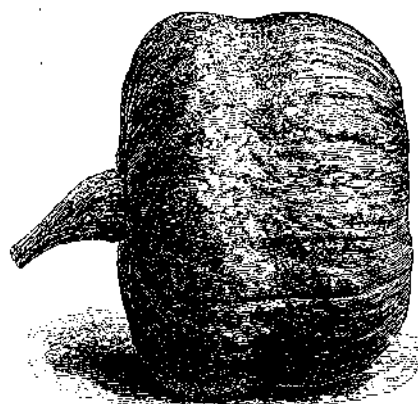


PLANT & PEST ADVISORY

VEGETABLE CROPS EDITION \$1.50

SEPTEMBER 29, 2004



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Vegetable Disease:

A Look Back in 2004, Part I

Andy Wyenandt, Ph.D., Post Doctoral Associate in Vegetable Pathology and Kristian Holmstrom, Program Associate in Vegetable IPM

Downy Mildew in Cucurbit Crops

This year was a wet one to say the least. Rain seemed to fall on a continual basis for most of the summer and brought with it all the problems associated with it including flooding and standing water, heavy winds and hail, as well as plenty of disease. **One problem which wasn't expected so early was downy mildew in cucurbit crops.** Under normal circumstances (whatever 'normal' is anymore) downy mildew typically isn't a concern for growers until late-summer into early fall. However, downy mildew was first diagnosed in late-June in eastern Cumberland County in squash, and shortly there after it was present in much of the southern part of the state. In the north, it was first diagnosed on July 19, at the Snyder Research and Extension Farm in Hunterdon County, and quickly appeared in all northern areas. A cool, wet summer helped to prolong the presence and severity of downy mildew in many areas and nothing seemed control it all that well.

Why downy mildew made its presence so early is anyone's guess, but most likely it had a lot to do with the weather pattern in the South-eastern part of the country and the weather pattern which brought us the rain. I'm no meteorologist, but the steady flow of weather from the Gulf States seemed to create the 'perfect (downy mildew) storm' which lasted the entire summer. Additionally, the *NC State University Downy Mildew Forecast* (<http://www.ces.ncsu.edu/depts/pp/cucurbit/>), a useful tool in previous years, is no longer offering downy mildew forecasts, and as such, cannot be used to predict the occurrence of downy mildew in our area.

Anyone who got a late start controlling it, saw first-hand how quickly it could ruin a crop. One could ask 'with the weather like we had this year would anything have helped control it?' There are a number of fungicides labeled for downy mildew control in cucurbits and controlling it shouldn't be a problem. Timing and tenacity was critical for downy mildew control this season! Next year, scouting should begin as soon as true leaves develop, when row covers are removed and/or if it looks like weather is going to be favorable for its development. The late-season calendar spray schedule which typically begins around August 1st

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Vegetable Disease Update

Andy Wyenandt, Ph.D., Post Doctoral Associate in Vegetable Pathology and Wes Kline, Ph.D., Cumberland County Agricultural Agent

✓ **Cole Crops – Downy mildew** can be a problem in fall cole crops (cabbage, collards, broccoli, cauliflower and kale). Infection begins as irregular yellow spots on leaves which later turn brown. A white fluffy growth develops on the underside of leaves during cool moist weather. When the disease first appears apply a fungicide every 7 to 10 days. Bravo, maneb, Ridomil Gold Bravo and Aliette are labeled. For more information on control please see the *2004 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Cucurbits – ‘White speck’ of Pumpkin** – also known as **Microdochium** or **Plectosporium blight** causes small, distinct lesions on infected vines, petioles, leaves, handles and fruit. Symptoms include light tan to pure white ‘spindle-shaped’ lesions that have a dry, scabby appearance. These small ‘white specks’ often coalesce to form large, dry scabby whitish-tan areas on infected plant parts. Heavy vine infection can lead to complete defoliation and handle and fruit infection can ruin aesthetic fruit quality. Control of White speck begins with proper rotations with crops other than cucurbits. Maximum coverage with fungicide applications is necessary. For more information on control please see the *2004 New Jersey Commercial Vegetable Production Recommendations*.

Choanephora fruit rot – also known as blossom blight is a disease which affects blossoms and young developing fruit. Infected female flowers may turn brown, ‘mushy’ and fall off prior to fruit set. Blossom infection can lead to fruit infection. Young fruit may turn a yellowish-brown with *masses of dense, white fungal growth with black ‘pinpoint’ spores developing on infected fruit*. Long periods of wet weather with excessive rainfall and

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and works well for Powdery mildew may not work for downy mildew in the future. The key for everyone is to jump on downy mildew control early and stay with it!

‘Will downy mildew be a huge problem in next year’s cucurbit crops?’ No one knows, but early-scouting and detection with timely and regular fungicide applications will be necessary for proper control. The key for everyone is to jump on it early and stay with it! With any luck, we’ll return to ‘normal’ next year.

Late Blight in Tomato

Once again we can thank the weather for bringing ideal conditions for late blight development in tomato crops. Fortunately, the southern part of the state fared much better than the northern part when it came to some of the heavy rains which pounded the state throughout the summer. Late blight first showed up in tomatoes in eastern Pennsylvania and in southern New York on tomatoes and potatoes this summer, and then found its way into New Jersey. The good news is that potato crops in southern New Jersey were spared, the bad news is that fresh-market tomato crops in the north were not.

Unfortunately, weather conditions were ideal for late blight development on and off throughout the summer. **Those who had late blight problems were not on a regular fungicide maintenance program and/or did not spray for it accordingly.** Now that the season is almost over the question arises about what to do for next year. This year’s tomato crop should be disked and plowed under as soon as the crop is finished this fall, even if you did not have problems. **Once late blight is detected in one part of a field it is most likely in other parts** and great care should go into disking those areas down if part of the field is going to be ‘saved’. If it is not possible to disk old plantings promptly, consideration should be given to killing the foliage with a desiccating herbicide. Regardless, regular fungicide applications need to be adjusted and made if late blight is detected in your area. Scouting should begin early in the season and should be done on a frequent and regular basis, especially if warm (but without extended periods above 90°F) wet humid weather is in the forecast. To help monitor potential late blight development in New Jersey a forecasting report is sent out on a regular basis throughout the summer which tracks weather and helps growers time fungicide applications in potato and tomato crops. For more information on how you can obtain the 2005 late blight forecasting report contact Andy Wyenandt at wyenandt@aesop.rutgers.edu or contact the RAREC Vegetable Pathology Lab at 1 (856) 455-3100 ext 4144.

Where are Late Blight and Downy Mildew Originating From?

That’s the big question, and the answer doesn’t seem to be as straight-forward as it once was. Traditionally, the answer has always been they both ‘work’ their way up from the South in the spring, especially the mildews. It’s thought that both pathogens can’t survive the cold winters in our area. The answer now is that we’re not quite sure anymore. In fact, both pathogens survive the winter on living host tissue, whether it’s an infested potato tuber left in/on the ground or cull pile or leaf tissue. The fact that downy mildew appeared so much sooner than normal in our region and before some of the more southern states is intriguing. That’s why burning down fields with herbicide, and/or disking and plowing down residue soon after crops are finished (or infected) can be so important. This helps remove/reduce a source for survival and promotes soil-borne microbial competition which can help reduce potential over-wintering pathogen populations. □

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high relative humidity favor the development and spread of Choanephora fruit rot. Unfortunately, control of Choanephora is difficult due to the constant development of new flowers and fruit, canopy production by the plant, and the ability of the fungus to live off of dead/dying plant tissue. For more information on control please see the *2004 New Jersey Commercial Vegetable Production Recommendations*.

Powdery mildew – Powdery mildew has now been identified in southern and northern New Jersey on a variety of winter squash and pumpkin. Powdery mildew typically occurs from mid-July until the end of the season. Powdery mildew can cause 100% defoliation very quickly if not controlled properly. The diagnostic characteristics of Powdery mildew are pure white ‘fuzzy’ growth on the upper and lower leaf surface, petioles and stems. Symptoms typically begin on older, lower leaves and can develop and spread rapidly under dry conditions. Control of Powdery mildew begins with regular scouting for symptoms and weekly fungicide applications. Fungicide resistance management of the fungus which causes Powdery mildew is critical. For more information on control of Powdery mildew and other important diseases of cucurbits please see the *2004 New Jersey Commercial Vegetable Production Recommendations Guide*.

Phytophthora fruit rot – Unfortunately, regular wet weather conditions throughout the summer have been ideal for development of crown rot phase of the disease and in some areas the fruit rot phase of the disease is beginning to show up. Symptoms on mature fruit appear as white, ‘greasy’ lesions which can extensively cover the fruit leading to its collapse. *Control of Phytophthora blight begins with proper crop rotations. Rotate with crops other than peppers, eggplants, tomatoes and other cucurbits and plant in well-drained fields. Acrobat 50WP at 6.4 oz/A (must be tanked mixed with another fungicide active against Phytophthora blight on pumpkins and winter squash such as fixed copper) when conditions favor disease development. For more information on control please see the 2004 New Jersey Commercial Vegetable Production Recommendations.*

✓ **Eggplant – Phomopsis blight** – can affect all above ground portions of the plant. Symptoms include well-defined circular lesions on infected leaves with *diagnostic black fruiting bodies* developing within the lesion. If disease progresses infected leaves may turn yellow and die. Fruit lesions are similar to leaf infections, but lesions may become much larger causing fruit to become soft. Wet weather and high temperatures favor Phomopsis blight development. Control of Phomopsis blight begins with weekly preventative fungicide applications which may include Amistar or Quadris 80WDG at 2 to 5 oz/A, or Flint 50WDG at 2 to 4 oz/A, or Cabrio 20EG at 8 to 12 oz/A or, maneb 80WP at 1.5 to 2 lb/A or OLF.

✓ **Leeks – Purple Blotch** – Symptoms of Purple blotch include tannish-brown, elongated, concentric, circular

lesions with chlorotic margins. Lesions run parallel with the leaf veins. Development of Purple blotch is favored by warm night temperatures. Fungicide applications should begin in the fall as soon as transplants are set out on 10-day intervals as long as night temperatures remain warm. There are a number of fungicides labeled for the control on Purple blotch. For more information on control please see the 2004 New Jersey Commercial Vegetable Production Recommendations.

✓ **Parsley – Septoria Blight /Bacterial (blight) leaf spot** – Leaf spots caused by **Septoria blight** are easily distinguished by small, angular to round leaf spots with grayish-brown centers with a definitive dark, brown margin. Numerous black fruiting bodies develop and are visible in the center of lesions. Spread of Septoria blight is by wind-driven rain, heavy dews and overhead irrigation. Workers and equipment may also spread the disease during wet conditions. Best management practices include i) proper crop rotations of at least 2 years and by using clean or treated seed ii) *scout fields early* for symptom development iii) keeping workers and equipment out of fields with wet foliage iv) plowing under residue of harvested crop and avoid planting in fields adjacent or near previously infected fields. Applications of azoxystrobin (Amistar or Quadris) and fixed copper can be alternated every 7 days for control. Leaf spots caused by Bacterial blight appear as small brown to black spots on the leaves. It does not have the grayish brown centers or brown margins like **Septoria**. The pathogen can be soil or seed borne and develops during cool, moist weather. The disease spreads during cool rainy periods or under sprinkler irrigation; and a high plant density. The same control measures listed for Septoria will assist in preventing spread of Bacterial leaf spot as long as the fixed copper is included with the azoxystrobin. If Oxidate is used, follow the label carefully. See the June 16 Plant & Pest Advisory for more information on copper and Oxidate applications.

✓ **Pepper – Anthracnose** - Symptoms of fruit infection include sunken, circular spots which develop blackish-tan to orange concentric rings as lesions develop. Lesions on stems and leaves appear as grayish-brown spots with dark margins and can easily be overlooked. Control of Anthracnose begins with using clean-free seed and/or transplants. A three-year crop rotation with non-solanaceous crops is recommended. After the harvest season, pepper fields should be disced and plowed under thoroughly to bury crop debris. At flowering, Maneb 74DF at 1.5 to 3.0 lbs/A should be alternated every 7 to 10 days with azoxystrobin (Amistar, Quadris 80 WDG) at 2 to 5 oz/A, or Cabrio 20 EG at 8 to 12 oz/A, or Flint 50 WDG at 3 to 4 oz/A. For more information on control please see the *2004 New Jersey Commercial Vegetable Production Recommendations*.

✓ **Spinach – White Rust** – Symptoms of White rust include *irregular, chlorotic areas on the upper leaf surface*
SEE SPINACH ON PAGE 4

SPINACH FROM PAGE 3

with white, blister-like pustules developing on lower leaf surface. Development of White rust is favored by cool nights and mild day temperatures with prolonged periods of dew or fog which favor wet leaf surfaces. Control of White rust begins with crop rotations of 2 or more years. Some varieties have partial resistance and should be used if possible. A preventative fungicide schedule should begin 2 to 3 weeks after planting, and/or if weather conditions favor disease development. There are a number of fungicides labeled for the control of White rust on spinach. For more information on the control of White rust on spinach please see the 2004 New Jersey Commercial Vegetable Production Recommendations.

✓ **Tomato – Anthracnose – or red fruit rot** is now showing up on mature tomato fruit. Symptoms of Anthracnose are easily diagnosed. Symptoms on ripe fruit appear as water-soaked circular lesions that often have a lighter colored tan center. Black fruiting bodies are often visible in the center of Anthracnose lesions. Control of Anthracnose begins with preventative fungicide applications. Fungicides labeled for other important foliar and fruit diseases of tomato will help control Anthracnose. If fruit-ripening agent has been used, additional fungicide applications may be necessary to help control Anthracnose. For more information on control please see the 2004 New Jersey Commercial Vegetable Production Recommendations.

Buckeye Rot – Wet weather and wet soils favor the development of Buckeye rot. Symptoms of Buckeye Rot on green fruit include brownish-tan lesions that have a *definitive concentric appearance*. As lesions form the fruit will begin to soften up, this is quite different than Late blight which will cause a dark brownish/black lesion with the fruit remaining somewhat firm. Unlike Late blight, Buckeye rot won't attack the foliage. For more information on control please see the 2004 New Jersey Commercial Vegetable Production Recommendations. □

IPM Update

Kristian Holmstrom, Program Associate in Vegetable IPM

Note: This issue contains the final European corn borer and corn earworm maps for this season.

Sweet Corn

European corn borer (ECB) activity is low throughout the state. It is not likely that this pest will cause further injury to sweet corn, especially with the last plantings being treated regularly for **corn earworm (CEW)** control. The highest average nightly **ECB** blacklight trap catches are:

Little York	2	Burlington	1	Downer	1
Phillipsburg	2	Cedarville	1	Elmer	1
Shirley	2	Centerton	1	Hopewell	1
Blairstown	1	Cinnaminson	1	Oldwick	1

Corn earworm (CEW) adult catches have declined throughout the state as evening temperatures have cooled. There may be some increase in CEW adults with the passing of tropical depression Jeanne through New Jersey the evening of the 28th, but this activity should be short lived as cooler weather is predicted immediately following the storm. This population still represents a threat to silking sweet corn, and growers should respond with appropriate silking spray schedules. The highest catches are in Salem and Cumberland Counties (see CEW map). The crosshatched area on the CEW map (green on the web) represents a population requiring a 3-4 day silk spray schedule. Silking spray schedules should protect against FAW infestations as well. The highest average nightly **CEW** blacklight trap catches are:

Shirley	12	Jones Island	4	Croton	3
East Vineland	10	Tabernacle	4	Hammonton	3
Elm	8	Cedarville	3	Lawrenceville	3
Seeley Lake	5	Cohansey	3	Oldwick	3

General Sweet Corn Spray Schedule

Silking Corn:	North	3-4 days
	Central	3 days
	South	3 days

Tomatoes

Late blight remains an ongoing problem throughout northern New Jersey on fresh market tomatoes. Infections range from slight to severe, where they are occurring. It is critical that all tomatoes, regardless of how young, be on regular protectant fungicide programs now. If symptoms should appear in local fields including rapid defoliation of entire leaves (with or without obvious sporulation) or green fruit turning brown but remaining solid for some time, immediately include a fungicide that specifically targets the group of fungi to which late blight belongs. These materials are listed in the 2004 New Jersey Commercial Vegetable Recommendations Guide. The presence of late blight only underscores the importance of proper field management this fall. It is critical that tomato plants be removed from the field or plowed in this fall. This will allow more complete decomposition of fruit and stems that may be infected with late blight or bacterial pathogens. Do not leave debris on the soil surface over the winter. This will permit greater survival of pathogens and may adversely affect the following season's crop.

Peppers

With **ECB** adult numbers low throughout the state, peppers are at much reduced risk of ECB infestation. Be aware, however, that high

SEE IPM ON PAGE 5

CEW populations (greater than 10 moths per night consistently in local blacklight traps) can result in injury to peppers and tomatoes. It may still be necessary to treat peppers and tomatoes weekly to prevent CEW injury. Be sure to monitor local trap catches to see if CEW populations threaten these crops. Damaging populations would show up as black on the CEW map (red on the web version).

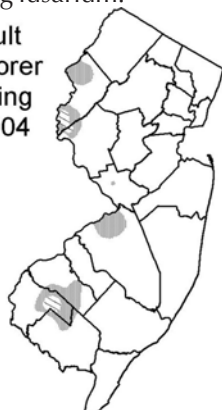
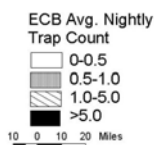
Beet armyworm (BAW) adults and larvae are present in parts of the southern counties. BAW is capable of causing significant injury to peppers and should be watched closely. Look for ragged feeding on leaves near the growing terminals on pepper plants. Young larvae will often feed there prior to infesting fruit. If this type of feeding is seen, and a preventive spray schedule is not already in place for other pests, growers should treat before fruit injury occurs.

Pumpkins

In a few fields in northern New Jersey, **striped cucumber beetles** have begun feeding on the skins of mature pumpkins. This injury results in scarring on the fruit surface, and may reduce the value of the fruit. Be sure to check fields at least weekly for the presence of cucumber beetles and the injury they cause. If either beetles or injury are found, consider treating at least the affected part of the field. If giant varieties such as 'Prize Winner' are in the field, be sure to check them often. These seem to be especially attractive to (and affected by) cucumber beetle.

At the present time, many fields contain mostly mature fruit. In these cases it is probably not necessary to continue to apply foliar fungicides, as the vines are in decline. However, it is important to move the fruit out of the field promptly to prevent loss from a variety of sources including **cucumber beetles**, **deer**, **phytophthora fruit rot** and **fusarium fruit rot**. The latter causes fruit to collapse without the obvious yeast-like growth on the surface that is characteristic of phytophthora. Fruit collapse from fusarium fruit rot is often preceded by the appearance of circular, oozing pits where there is fruit contact with the soil. There is no viable control for either pathogen, so prompt removal of undamaged fruit is important. Damage to fruit while harvesting should be avoided as well, because this will create points of entry for rotting pathogens including fusarium.

Distribution of Adult European Corn Borer for the Week Ending September 29, 2004



Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Pest Notes

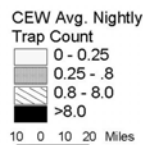
Gerald M. Ghidui, Ph.D., Specialist in Vegetable Entomology

✓ **Pepper (bell):** Although the **European corn borer** flight activity has about stopped; **corn earworm** moths are still active. These pests are a little more difficult to control than the corn borers, and thus the selection of spray materials recommended for corn earworm is more limited than for other pests. Use a pyrethroid (such as Asana, Baythroid, Capture, Mustang Max, or Warrior) or Proclaim or Sevin. Unlike corn borers, which enter the pepper usually from under the calyx, corn earworms may enter the fruit from any point. Thus high volume, high pressures are recommended for corn earworm to ensure adequate spray penetration of the plant canopy and adequate coverage of the foliage and fruit. Directed sprays using 2-3 nozzles per plant are effective in giving adequate spray coverage.

✓ **Sweet corn: Corn earworm and fall armyworm** moths are still active and showing up in blacklight traps, although numbers have decreased because of the cooler weather in the evenings. Conditions are still moist and warm enough for larvae to attack and enter the ears. For corn earworm, use Asana, Baythroid, Capture, Mustang Max, Lannate, Larvin, Ambush, Pounce, SpinTor, or Warrior. These materials are effective against corn earworm, but placement of the material on the corn silk is crucial. Make sure the spray reaches the ear silk because this is where the eggs are deposited, and the hatching larvae will enter the ear from this point.

✓ For the **fall armyworm**, use Avaunt, Baythroid, Mustang Max, Lannate, Larvin, or Warrior. These pests may enter the ear from any point, including the shank end, the side, or the tip. Coverage of the spray material must include the entire ear zone, especially the area between the ear and the stalk where worms may hide. Use high volume, high pressure to ensure adequate spray penetration of the ear zone. If ears are still developing, spray the ear zone if fall armyworms are present in the blacklight or pheromone traps. □

Distribution of Adult Corn Earworm for the Week Ending September 29, 2004



Data collected and processed by: Kris Holmstrom, Marilyn Hughes
Rutgers Cooperative Extension & Center for Remote Sensing

Practices that Minimize Nitrate Leaching

Adapted from Cornell Extension and reprinted from Vermont Vegetable and Berry News, October 1, 2004, University of Vermont Extension www.uvm.edu/vtvegandberry.

Good nitrogen management not only prevents pollution, it saves money. A variety of practices, in both spring and fall, can help keep excess nitrogen from leaching out of soil as nitrate.

1. Take soil tests on a regular basis and follow university guidelines when applying fertilizers.
2. Account for the N contributions from legume, grass sod, manure and soil organic matter.
3. Establish winter hardy cover crops after cash crops, especially if manure is applied in the fall.
4. Limit fall manure applications to no more than 50% of the N need of the next crop.
5. Spread manure at least 100 feet away from wellheads, springs or surface waters.
6. Avoid spreading manure before heavy rainfall.
7. If possible, disturb soil cracks with tillage before or during manure applications.
8. Use little or no manure after plowing down of a good sod stand.
9. Kill sod crops as late in the fall as possible, especially if it's a heavy alfalfa stand.
10. Minimize the use of N in starter fertilizer since crop demand is low early in the season.
11. Apply all N sources as close as possible to the time of greatest plant needs by sidedressing.
12. Use the pre-sidedress (June) nitrate test on full-season crops to guide sidedress N decisions.
13. Maintain accurate records on rotations, fertilizer and manure applications, and crop yields. □

Funding Round to Close October 29 for EQIP Applications

New conservation practices eligible for 2005 funding

Tony Kramer, State Conservationist for USDA, Natural Resources Conservation Service (NRCS) in New Jersey announced that the application period for the Environmental Quality Incentives Program (EQIP) will close at the end of October. Applications submitted to NRCS by close of business on Friday, October 29, will be included in the application review for Fiscal Year 2005 EQIP funding.

Mr. Kramer stressed that the funding outlook for EQIP and other conservation program is very positive. Landowners are encouraged to sign up so New Jersey can be in a position to acquire these funds. He also noted that new applicants are welcome, and farmers who have existing contracts may be eligible for funding for new conservation practices.

EQIP in New Jersey has been expanded to include the new conservation practices of Advanced Nutrient Management, Advanced Pest Management, Grass-Based Livestock Systems, and Agricultural Runoff Management to voluntarily meet New Jersey stormwater management regulations. In addition, some expanded components for existing irrigated acres will be cost shared. Agricultural producers who want to take advantage of these or other conservation systems on their operations should apply now for EQIP cost share funding in 2005.

EQIP is a voluntary conservation program administered by USDA-NRCS. Through EQIP, farmers whose applications are approved may receive financial and technical help with structural and management conservation practices on agricultural land. Sign-up for this program is continuous, but funding rounds are set throughout the year to select projects for funding. Additional program information is available at <http://www.nj.nrcs.usda.gov>, the NJ NRCS website.

To sign up for EQIP, contact any USDA Service Center. USDA Service Centers and office locations are listed in the telephone book under the US Department of Agriculture and can also be found on the NRCS-NJ website.

Hackettstown - serving Sussex, Morris and Warren: (908) 852-2576 ext. 3

Frenchtown - serving Hunterdon, Somerset, and Union: (908) 782-4614 ext. 3

Freehold - serving Mercer, Middlesex and Monmouth: (732) 462-1079 ext. 3

Hainesport - serving Burlington, Camden, and Ocean: (609) 267-0811 ext. 3

Woodstown - serving Gloucester and Salem: (856) 769-1126 ext. 3

Vineland - serving Atlantic, Cape May, and Cumberland: (856) 205-1225 ext. 3

Farmers and Farms in S. Jersey: Planning for Agriculture in Your Community

Are you a farmer in a rapidly growing municipality? Are you a member of a municipal community with rising property taxes? Are you a township or town council, planning board, or environmental commission member dealing with land planning? Are you a county, state or township official dealing with right-to-farm issues? If the answer is "yes" to any of these questions you should attend "Farms and Farmers: Planning for Agriculture in Your Community"! This workshop will be held on Thursday evening, October 14, 2004 from 6:00 - 9:30 pm at the Mid-Atlantic States Food Systems Education Center at Pennsville, located in the Pennsville School District Building at 30 Church Street, Pennsville, NJ. This facility is accessible from Route 295 and the New Jersey Turnpike at Exit 1, just south of the Delaware Memorial Bridge.

An invited panel of experts with experience in planning and agricultural issues will be led by New Jersey Secretary of Agriculture Charles Kuperus, who will emphasize the importance of maintaining a strong agricultural sector in Salem, Cumberland and Gloucester Counties. Brian Schilling, Associate Director of the Rutgers Food Policy Institute, will then present the latest census information about agriculture in the three-county area and identify and address some commonly held misconceptions. Michael Brooks, a young Salem County farmer, will discuss challenges and opportunities for farmers in South Jersey and identify key areas of concern and creativity.

Michael Sullivan, a seasoned professional planner with Clarke Caton Hintz who has vast practical experience and was directly involved in the well-known effort in Chesterfield Township, will lead the second half of the program. The line-up also includes Monique Purcell, Director of the Division of Agricultural and Natural Resources, who will outline the current Smart Growth Plan from a state perspective. Additionally, Helen Heinrich, a professional planner specializing in rural planning issues, will share her views about the model right-to-farm and other ordinances, and Rich Nieuwenhuis, President of New Jersey Farm Bureau, will conclude the program with a summary of the information presented and suggestions about how it might be applied.

Retired judge Paul R. Porreca has graciously agreed to moderate the program. All are welcome to attend this event at no charge. For additional information, including a detailed program agenda and directions, please contact Jerry Frecon at (856) 307-6450 or frecon@aesop.rutgers.edu or Claire Homitzky at (201) 792-5416 or homitzky@aesop.rutgers.edu. The agenda and directions are also available on the Rutgers Cooperative Extension of Gloucester County web site at <http://gloucester.rce.rutgers.edu>.

The program is sponsored by the Mid-Atlantic States Food Systems Education Center at Pennsville in conjunction with the New Jersey League of Municipalities, NJ Department of Agriculture, NJ Farm Bureau, the Rutgers EcoComplex, the NJ Conservation Foundation, Rutgers Cooperative Extension, the Rutgers Food Policy Institute, and the Rutgers Food Innovation Center.

Additional information: There is no fee for this event and light refreshments will be served. This building is handicapped accessible; please call the Center at Pennsville at (856) 540-6203 to make arrangements prior to the event. □

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much above normal, averaging 66 degrees north, 66 degrees central and 66 degrees south. Extremes were 86 degrees at Seabrook and Glassboro on the 24th, and 46 degrees at several locations on the 21st. Weekly rainfall averaged 0.00 inches north, 0.00 inches central, and 0.00 inches south. The heaviest 24 hour total reported was zero at all locations. Estimated soil moisture, in percent of field capacity, this past week averaged 89 percent north, 71 percent central and 53 percent south. Four inch soil temperatures averaged 65 degrees north, 65 degrees central and 65 degrees south.

Weather Summary for the Week Ending 8 am Monday 9/27/ 4

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MIN	AVG	DEP	TOT	DEP	
BELVIDERE BRIDGE	.00	37.24	9.19	82	48	66.	6	2956	377	77
CANOE BROOK	.00	33.75	4.27	85	49	67.	7	3027	434	83
CHARLOTTEBURG	.00	31.82	2.05	82	47	65.	8	2770	716	79
FLEMINGTON	.00	35.98	7.83	83	46	65.	5	2982	324	86
LONG VALLEY	missing									
NEWTON	missing									
FREEHOLD	.00	27.61	.29	82	47	65.	3	3173	344	80
LONG BRANCH	.00	27.88	.23	84	53	66.	4	3023	250	49
NEW BRUNSWICK	.00	28.91	1.11	84	49	67.	5	3186	227	84
TOMS RIVER	.00	27.91	-.37	84	46	65.	3	3282	504	37
TRENTON	.00	26.31	.01	84	46	67.	4	3258	178	65
CAPE MAY COURT HOUSE	.00	21.56	-2.98	84	47	65.	0	3139	317	35
DOWNSTOWN	.00	23.27	-2.45	85	45	65.	1	3341	243	51
GLASSBORO	.00	38.09	11.02	86	52	69.	6	3402	340	64
HAMMONTON	.00	25.80	-1.24	85	47	66.	3	3454	385	33
POMONA	.00	22.76	-1.64	84	45	65.	3	3309	459	44
SEABROOK	.00	28.13	3.33	86	52	69.	5	3671	553	48
SOUTH HARRISON	.00	28.84	2.45	85	49	66	NA	3495	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW	Last Week 198 (Ending 9/20/04) This Week 179 (Ending 9/27/04)									

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