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2004 Coachella Valley Vegetable Disease Review

The Farm Advisor and Coachella Valley Pest Control Advisors collected the plant samples used in this report. Where the pathogen was identified it is listed. Note that not every problem led to a pathogen being identified. This is not a complete list of diseases in the Coachella Valley. Some common diseases and control measures are listed in the UCIPM web site. Please refer to this web site for insect and disease control information: <http://www.ipm.ucdavis.edu/>
This list also includes insect larva collected on bell peppers, and worms collected on snap beans.

ARTICHOKE

02-07-04 **Symptoms:** Stunting and wilting of leaves. Some yellowing of leaves also visible. Roots appear to have internal browning.
Pathogen: *Fusarium oxysporum* isolated.

BELL PEPPERS, CHILI PEPPERS:

04-29-04 **Symptoms:** In the field, scattered mature plants are collapsing. Roots have internal discoloration.

Pathogen: *Pythium* spp. and *Fusarium* spp.

05-18-04 **Symptoms:** New growth very light green, some yellowing of upper leaves, affected plants are scattered throughout the whole field.

Pathogen: 95% of the nematodes were *Meloidogyne incognita* and 5% of the nematodes were *Meloidogyne javinca*. Roots had large and small galls visible.

10-13-04 **Symptoms:** Plants with severe stunting.

Pathogen: *Pythium aphinidermatum*. *P. aphinidermatum* can produce pectolytic or cellulolytic enzymes that breakdown plant tissue. These fungi are referred to as belonging to the water molds. The habitat for *Pythium* spp. is in the soil or previous crop debris. Water is necessary for development and the spreading of these fungi.

10-21-04 **Symptoms:** Very small and hairy worm larvae found on bell pepper plants.

Results: Larvae identified as Salt Marsh Caterpillar.

11-04-04 **Symptoms:** Harvested bell pepper fruit has some areas of discoloration on stems.

Pathogen: Pathologist reviewed fruit, did not believe it was bacterial soft. The sample was also negative for *Alternaria* spp. Suspect that the pedicels were damaged in post harvest handling. Problem involved small number of fruit.

02-19-04 **Symptoms:** Plants have some stem rotting and damping-off like symptoms.

Pathogen: *Botrytis cinerea*. Tissue colonized by *B. cinerea* may be invaded by other decay organisms.

CANTALOUPE

10-08-04 **Symptoms:** Virus symptoms on leaves.
Pathogen: Cucurbit Leaf Crumple Virus. Plants tend to slowly recovery from this virus and fruit production can be reduced.

CAULIFLOWER

10-26-04 **Symptoms:** Leaves have spotting, near outer leaf margin, mostly in one planting.
Pathogen: Not disease related. Plants will grow out of this minor leaf damage.

CELERY

09-07-04 **Symptoms:** Plants were transplanted 2 weeks ago, appear stressed with some yellowing of leaves. Most affected areas are in the low spots in the field.
Pathogen: One sample had *Fusarium* spp. and *Rhizoctonia* spp. causing Damping-Off and Root Rot. Another sample had *Phoma Apiicola*, causing Phoma root and crown rot. This disease requires considerable moisture and favorable temperature for spore germination.

10-18-04 **Symptoms:** Virus like symptoms on leaves.
Pathogen: Suspected Cucumber Mosaic Virus or Celery Mosaic Virus. No virus was recovered. Suspect Phytoplasma infection. Sample had some silver leaf whitefly nymphs.

CILANTRO

03-26-04 **Symptoms:** Yellow spotting on leaves, develops in transit.
Pathogen: *Alternaria* spp. As the infection develops, the necrotic lesions become larger and noticeable.

LETTUCE

11-16-04 **Symptoms:** New leaves are stunted, leaf color is abnormal. Patches of problem plants in the field.
Pathogen: *Pythium uncinulatum*, causes wilt, leaf blight and root rot.

12-06-04 **Symptoms:** Leaf has papery brown necrotic areas.
Pathogen: No pathogen recovered. Suspect it is frost-related damage.

12-15-04 **Symptoms:** Leaf spotting, appear on mature leaves.
Pathogen: *Xanthomonas campestris*, causes Bacterial Leaf Spot. Some Downy Mildew, *Bremia lactucae* also present.

SPINACH

11-22-04 **Symptoms:** Spinach leaves have discolored surface lesions.
Pathogen: No disease plated out. Recent rains created the superficial damage.

SNAP BEAN

03-31-04 **Symptoms:** Plants germinate, older leaves begin to dry and dieback. No new growth is initiated.
Pathogen: *Rhizoctonia* spp, causes Rhizoctonia Rot Rot.

10-07-04 **Symptoms:** Plants appear stunted. When the roots are examined they appear damaged. Could see nematode like worm on roots.

Pathogen: Enchytraeid worms (potworms) recovered from soil sample. Not pathogenic. Unknown what is causing the plant stunting. Recovered potworms from stunted bell peppers, stunted celery and stunted snap beans.

SQUASH, ALL

05-11-04 **Symptoms:** Yellow crookneck squash leaves are very light green to yellow. Plants are stunted in growth.

Pathogen: roots infested with Root-knot nematode.

WATERMELON

05-03-04 **Symptoms:** Mature plants with fruit decline. Limited to just a few plants in the field. Roots appear healthy.

Pathogen: No pathogen isolated.

Contributors to this report: Miguel Vilchez, Staff Research Associate, Dr. Don Ferrin, UCR Plant Pathology, Tom Turini, Plant Pathologist, UCCE Imperial County, Dr. Mike Davis, UCD Plant Pathology, Dr. Bob Gilbertson UCD Plant Pathology, Dr. Michael Coffey, UCR Plant Pathology and Dr. Bill Wintermantel, USDA-ARS, Dr. Paul De Ley, UCR Nematology, Scott Edwards, UCR Nematology.

Plant pathologists specialize in their field. When a plant sample is collected a determination must be made by the collector as to the probable causal agent. The sample is sent to the Pathologist and it must arrive in good condition. Pathologists like to receive samples from healthy and diseased plants. Some disease problems are insect vectored, Whiteflies for example can vector several virus diseases in squash, for successful control measures the whole picture must be taken into account and not just the leaf viral symptom.

Special thanks to the folks at: **Foster & Gardner, Western Farm Service, Soil Serve and Helena** for their assistance in plant disease collection and identification.

You can view some pictures of celery diseases of the Coachella Valley at:

<http://ceriverside.ucdavis.edu/Vegetable%5FCrops/>

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University policy is intended to be consistent with the provisions of applicable State and Federal laws.

2005 Coachella Valley Farmers Educational Meetings

USDA Service Center, 82-901 Bliss Street Indio, California
Noon to 1:00 p.m.

- FEB. 2 Soil Symposium: see program flyer for details.
- MARCH 2 Myths and Reality of Rocket Fueled Lettuce: Putting the Perchlorate Issue into Perspective: Dr. Charles Sanchez, Soil and Water Research Scientist, University of Arizona and Nutsedge Management Trials in Lettuce: Jose Aguiar, UCCE Riverside County
- APRIL 6: Citrus Research Update: Dr. Peggy Mauk, UCCE Riverside County.
- MAY 4: Irrigation/Salinity Management Seminar. Program details posted in near future.
- JUNE 1 Landscape/Golf Course Program: Mike Henry, UCCE Farm Advisor, Catherine M. Grieve, USDA Salinity Laboratory, Riverside.
- JULY 6 Vegetable Weed and Disease Control: Steve Fenimore, Extension Specialist and Jose Aguiar, UCCE Riverside County

Our cooperators at the Coachella Valley Mosquito and Vector Control District (CVMVCD) will make a short educational presentation at the beginning of each meeting. Raul Alvarado, Soil Conservationist will also make a short presentation on the EQIP Program at each meeting. Lunch is provided courtesy of CVRCD and CVMVCD.

In cooperation with the USDA-NRCS Indio,
Coachella Valley Resource Conservation District (CVRCD),
University of California Cooperative Extension Riverside County,
Coachella Valley Mosquito and Vector Control District (CVMVCD)

Please call 760-347-7658 Ext. 101 to register for the meeting.
CE credit will be requested when appropriate.



Please call 760-863-7949 for more information.

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