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## Ornamental Pepper: End of Season Wrap-up

*The fall ornamental pepper season is nearing the end of its cycle. This Alert contains a 2-page handout (pages 3 and 4) of problems encountered this season. Those 2 pages can be printed and posted in the greenhouse.*



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# Top Tips for Diagnosing and Managing Ornamental Pepper Disorders

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Successfully growing and finishing healthy ornamental peppers requires attention to nutrition, environmental conditions, pests, and diseases. Identifying issues early can prevent larger problems later in production. These top tips aid in diagnosing common problems.

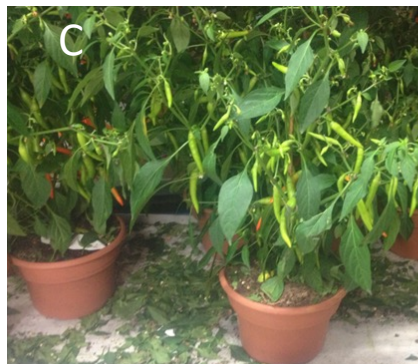


## Nutritional

- A. Calcium Deficiency:** Calcium is essential in cell wall formation. Leaf cupping and curling of new developing foliage is a common symptom of Ca deficiency.
- B. Low Substrate pH:** excessive accumulation of certain micronutrients, particularly iron, manganese, and boron. This occurs because a lower pH increases the solubility of these micronutrients, making them more available to plants.
- C. Low EC (Production):** Low fertility results in chlorosis of the lower foliage that can move upward to the middle foliage. Plants are stunted. Low EC problems are common in outdoor production after heavy rain events.
- D. Phosphorus Deficiency** can be observed in cool climates as lower leaf purpling or olive-green spotting on lower foliage under warmer growing conditions.

## Physiological

- A. Heat Delay:** When temperature exceeds 90°F (32 °C) during the day and 75°F (24 °C) at night a delay in fruit set can occur. Prolonged heat stress can result in reduced pollen viability and flower abortion.
- B. Fruit** typically happens when there is a rapid fluctuation in environmental conditions, such as sudden changes in temperature, inconsistent watering (either too much or too little), or excessive rainfall after a dry period.
- C. Ethylene:** fruit abortion, leaf loss, stunted growth, and leaf curling. There are a variety of ways that ethylene exposure can occur such as shipping delays, cracked heat exchangers, or over-application of some PGRs such as ethephon.
- D. Drought Stress:** Wilting and leaf necrosis when water stressed. Lower leaf loss can also occur in severe cases.



# Top Tips for Diagnosing and Managing Pansy Disorders

## Disease



- A. **Pythium Root Rot:** Managing the irrigation so that the substrate is not excessively wet will help avoid root rot. Allowing the substrate to dry down to level 2 prior to irrigating will help prevent problems from occurring
- B. **Botrytis** is a fungal pathogen that typically appears as brown, water-soaked lesions on stems, foliage, of flowers, often accompanied by a gray, fuzzy mold. Stem collapse may be observed.
- C. **Bacterial Leaf Spot:** Xanthomonas can be introduced through seed or by splashing water. Common symptoms include small translucent water spots on the foliage turning dark brown to black as symptoms progress.
- D. **Impatiens Necrotic Spot Virus** a thrips vector virus that will initially appear as dark ringspot on the foliage or dark stem lesions. Controlling thrips populations is important to prevent the spread of the virus.

## Pest

- A. **Mealybugs:** infestations can occur if other plants are held back for stock and crawl over from adjacent infested plants or on the greenhouse bench. Mealybugs can live on the greenhouse bench or under pots for extended periods of time after plant material is removed
- B. **Aphids:** Curling or yellowing leaves, distorted growth, sticky honeydew residue, and sooty mold development.
- C. **Western Flower Thrips:** Silvery or stippled leaves, deformed flowers, and black fecal spots. Heavy infestations reduce plant vigor. Populations should be monitored as thrips are a virus for viruses.
- D. **Spider Mites:** stippling, yellowing, bronzing, and webbing on the plant. Spider mites are visible to the naked eye, and under severe infestations, webbing and large colonies can be observed on the growing tips.

