Planting is well under way in most places with some farms having planted 30% or more of their fall acreage, while on other farms planting will start in the next few days. Fortunately, SW Florida was spared most of the effects of Hurricane Floyd, which caused growers a few anxious moments on its' approach earlier in the week.

The FAWN weather station in Immokalee recorded no precipitation from the storm and reported wind speeds of only 16 - 18 miles per hour. Reports from growers indicate rainfall from 0.12 - 0.50 inches and winds up to 30 miles per hour in some places. A number of respondents have indicated some sand blasting and battering of plants particularly on larger more exposed fields and those on drip irrigation where there was less soil moisture to keep sand from blowing.

Hot dry weather in August resulted in poor stand establishment in some early plantings. This problem was particularly pronounced in early pepper where some fields required up to 20% or more of the stand to be reset.

Summer pepper planting presents some interesting challenges. Most growers have seen pepper develop a condition known by such names as “heat stress,” “plastic damage,” “heat girdling” or “stem scalding”. The outward appearance is an hourglass like pinching in of the stem just above the plastic mulch that is usually discolored to tan or light brown. The stem eventually collapses and the plants fall over. Some claim that this is caused by the “flap” made during plastic mulch punching, hence the term “plastic damage.” However, the condition can occur even in the absence of that plastic “flap.”

In September 1997, Charlie Vavrina at SWFREC, designed a study to look at the effect of time of planting (9:00 AM, 11:00 AM, 1:00 PM and 3:00 PM) on heat girdling in pepper transplants in a well-irrigated field. Plants set at 11:00 AM and 1:00 PM showed 40% and 25% heat girdling compared to 3% and 8% for plants set at 9:00 AM and 3:00 PM. Plants set well before (9:00 AM) or well after (3:00 PM) the noon day sun were able to adjust to their water loss and minimize heat girdling. Plants set during the peak sun hours basically bypassed the adjustment phase just trying to cool themselves (i.e., transpiration) and when the plug ran out of water, heat girdling occurred!

Other factors certainly come in to play, but time of day definitely makes a difference. You may not be able to discontinue planting from 11:00 AM to 1 PM, but if you do, your need for resets will go down.
Both **beet armyworms and southern armyworms** on pepper and tomato are being reported widely throughout the area. Many respondents are reporting that they seem to be earlier than usual and present in moderate numbers. Frequent light showers seem to reducing the efficacy of BT applications, with a number of growers being forced to turn to harsher chemicals to achieve control.

**Loopers, tomato fruitworms and tomato hornworms** are also being reported widely in low to moderate numbers.

The following information was excerpted from the **Florida Tomato Scouting Guide** to help growers identify these different worms. The guide can be found on the web at http://www.ifas.ufl.edu/~FTSGWEB/ and can also be purchased in bound form from the University of Florida/IFAS Publications.

- **Beet armyworm** (*Spodoptera exigua*): is generally less numerous than southern armyworm but is more difficult to control. The larva are generally green, mottled with white spots with black spot over the middle pair of true legs, 1 -1 1/4 in. long at maturity. The adults have light brownish gray front wings with indistinct lines and are active at night. The eggs are laid in masses of 50-75 eggs covered with a felt-like mass of scales from female's body. Eggs are generally found on underside of leaves and hatch in 3 days.

- **Southern armyworm** (*Spodoptera eridania*): The larva are dark caterpillars with a yellowish brown head and a yellowish line along the side of body that is interrupted by a large dark spot on first abdominal segment. Approximately 2 in. long at maturity. Large larvae have 2 rows of dark triangles on dorsal surface. The young larvae feed on under surface of leaflets leaving upper epidermis intact to give a "window pane" appearance. The adult has the front wing streaked with cream, gray, light brown and black and hind wing white with some dark on margins. Large masses of 100-200 eggs covered with moth body scales are found on underside of leaves.

- **Tomato fruitworm** (*Helicoverpa zea*): Larval color is variable, ranging from very dark to light green or pink with alternating longitudinal dark and light stripes. The skin is covered with short sharp micro-spines. Adults are active at night, with a 1-½ in. wing span. Males display a cream-colored forewing with orange or olive cast, while females have a light yellow brown forewing with indistinct vertical lines. Eggs are waxy white and ribbed, with a flat base, and are deposited singly usually on lower surfaces of leaves adjacent to or near flowers. Eggs hatch in 2-3 days.

- **Cabbage or soybean looper** (*Trichoplusia ni* or *Pseudoplusia includens*): Larva are pale green with white line along side of body and only 3 pair of prolegs. Mature size 1 – 1 1/4 in. Adult is a grayish-brown moth that is active at night. Front wings marked near center with a figure 8-shaped, silver-white spot. Eggs are greenish-white, ridged but flattened laterally and are found singly on upper or lower leaf surfaces of upper canopy leaves. Hatches in 2-3 days.

Very low whitefly numbers are being reported at this time across the area. Many respondents have reported seeing no whiteflies at present. Despite this growers are advised to continue to use **Admire** both in the greenhouse and in the transplant water, and follow up with alternative chemistries later in the season. Research by Jane Polston indicates that early infection can reduce tomato yields by up to 90% whereas late infections reduced yields 40% or less. Proximity to a source of TYLCV was critical in determining incidence of the virus in the field. Growers are advised to make sure that transplants are obtained from areas away from sources of TYLCV infection. Roguing infected plants upon identification is also helpful.

The incidence of **bacterial leaf spot** on tomatoes and peppers is very low to non-existent in most fields. In most cases the few lesions being observed are on the very lowest leaves that are in contact with the plastic and stay wet for long periods. Growers are advised to monitor transplants closely as they can be a major source of BLS
infection. Foliar damage due to sand blasting and wind damage from hurricane Floyd may result in higher incidence of BLS in coming weeks.

<table>
<thead>
<tr>
<th>Pest</th>
<th>Crop Stage</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Armyworms, fruitworm</strong></td>
<td>Pre-bloom</td>
<td>1 larva/6 plants</td>
</tr>
<tr>
<td></td>
<td>Post-bloom</td>
<td>1 egg or larva/field</td>
</tr>
<tr>
<td></td>
<td>0-7 true leaves</td>
<td>0.7 larva/plant</td>
</tr>
<tr>
<td><strong>Tomato Pinworm</strong></td>
<td>&gt; 7 true leaves</td>
<td>0.7 larva/leaf</td>
</tr>
<tr>
<td></td>
<td>Season long</td>
<td>5 adults/ trap/night*</td>
</tr>
<tr>
<td><strong>Leafminers</strong></td>
<td>0-2 true leaves</td>
<td>0.7 larva/plant</td>
</tr>
<tr>
<td></td>
<td>&gt; 2 true leaves</td>
<td>0.7 larva/3 terminal leaflets</td>
</tr>
<tr>
<td><strong>Silverleaf whitefly</strong></td>
<td>Season long</td>
<td>5 pupae and/or nymphs/10 leaflets**</td>
</tr>
<tr>
<td></td>
<td>0-3 true leaves</td>
<td>10 adults/plant**</td>
</tr>
<tr>
<td></td>
<td>3-7 true leaves</td>
<td>1 adult/leaflet</td>
</tr>
<tr>
<td><strong>Thrips</strong></td>
<td>Post-bloom</td>
<td>&gt;5/flower</td>
</tr>
<tr>
<td><strong>Stinkbugs</strong></td>
<td>Post-bloom</td>
<td>1/6 plants</td>
</tr>
<tr>
<td><strong>Aphids</strong></td>
<td>Season long</td>
<td>&gt;3-4/plant</td>
</tr>
<tr>
<td><strong>Looperers</strong></td>
<td>Season long</td>
<td>1 larva/6 plants</td>
</tr>
</tbody>
</table>

*When threshold is reached apply pheromone for mating disruption

**Tentative threshold; will require more validation. If the source of whiteflies is believed to be tomato, especially if infected with TmoV or TYLCV, the threshold will be lower

**Gummy stem blight** is widely present in fall watermelon. Incidence is low to medium.

There have been a few confirmed reports of **pythium** on pepper. In at least one instance it is suspected that high salts in the affected areas may have predisposed the plant to infection.

There has been one unconfirmed report of **phytophthora** on pepper. This is in an early planting and largely confined to low, wet spots in the field.

There has been one instance reported in which a pepper stand was reduced by nearly 75-80% following early planting following fumigation with methyl bromide 67/33. In this case, the field was wet and plants were set about 10 days after fumigation. Growers are reminded that when using **methyl bromide 67/33, the time to planting** after application is longer than with methyl bromide 98/2 due to the higher concentration of chloropicrin. Plants should not be set out until 14 days and possibly longer under cool or wet conditions to avoid injury.

Robert Murray of Rohm and Haas reports that **CONFIRM 2F** has received a Federal and Section 3 labeling and is **now labeled** for use in Florida on **fruiting vegetables** as well as **cole crops and leafy vegetables**. **Confirm** is a reduced risk pesticide for use of a variety of lepidopterous worms. Rates are 6-8 oz/acre on leafy and cole crops and fruiting vegetables, with an 8-16 oz/acre rate permitted for late season and heavier infestations on fruiting vegetables. The PHI is 7 days.

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The SW Florida Pest and Disease Hotline is compiled by Gene McAvoy and is issued on a biweekly basis by the Hendry County Cooperative Extension Office as a service to the vegetable industry.

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