

# Field Diagnosis of Diseases in Landscape Palms

prepared by Joe Garofalo

During the last several years there has been increase in the incidence of several diseases of landscape palms in Southeast Florida. These diseases include several which are difficult to diagnose in the field. They cause a general decline, death of the bud, and eventually death of the palm.

Depending on the stage of disease development when the palms are noticed to be in decline, it is very difficult or impossible to say with any degree of certainty which disease is involved. If this is the case, then a plant pathologist or plant disease clinic should be asked to assist in the diagnosis. Laboratory diagnoses are possible for these diseases, but they do require time.

## WHAT IS NEEDED

Landscape maintenance personnel, nurserymen, and horticultural consultants routinely have difficulty distinguishing among these diseases. It would be very helpful to them if there were a means of making a preliminary diagnosis. Publications (see References) are available which discuss each of these diseases in detail. What is lacking is a *concise* treatment of these diseases and their symptoms.

For each of the major diseases involved we need one or two symptoms which are easy for field personnel to see, and which in most cases will either identify a disease, or eliminate it from consideration in most cases.

This would allow them to know what questions to ask about past treatment of the palms involved, which diagnostic test should be requested, and possibly to begin treatment immediately without the need for scheduling a return visit to the site.

## FIVE DISEASES INVOLVED

The diseases most often confused include Phytophthora bud-rot, Ganoderma butt-rot, and Thielaviopsis bud-rot. In some species the confusion may also include Lethal Yellowing and Fusarium wilt.

Following is a short check-list used by many Extension Agents in their effort to identify the problem and distinguish among these diseases. These may prove to be useful to others in their everyday work.

## THE FIRST STEP

The first time you notice a problem look for the following indicative symptoms:

1. for Phytophthora bud rot--the bud *only* falls over and has a foul odor;

2. for Ganoderma butt-rot--a button or conk is visible on the lower trunk, or growing from the soil or the mulch;
3. for Thielaviopsis bud-rot--the trunk falls over, bending well below the tip, near the middle;
4. for Lethal Yellowing--the shedding of flowers and fruit is diagnostic;
5. for Fusarium wilt--death of the leaflets on one side of the rachis.

## USE THE TABLE

Now, guided by the initial symptoms, go to the table. In Table 1. the symptoms are listed for each of these diseases, along with additional symptoms which may also prove useful. Such a comparison may help guide you toward a field diagnoses of the palm disease involved.

There will be cases in which the symptoms observed will not allow even such a preliminary diagnosis. In such cases, when nothing you see helps, you should consult a specialist.

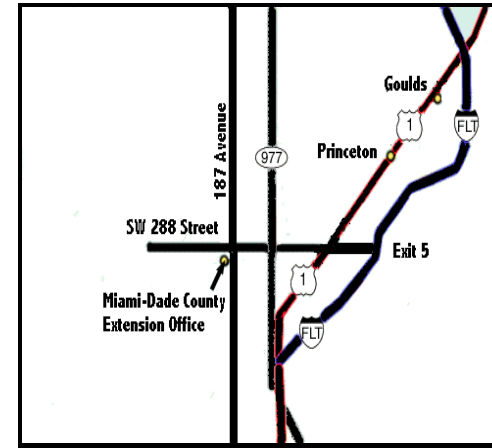
The information contained in the table was gleaned from the references listed below, plus experience. If more detail is desired, consult the references.

## REFERENCES.

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## ***In Writing***

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Prepared by: Joseph F. Garofalo

Extension Agent/Commercial Urban Horticulture  
Miami-Dade County Cooperative Extension Service

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**Miami-Dade County/University of  
Florida Cooperative Extension Service**



**EXTENSION**

Table 1. Symptoms Useful in Field Diagnoses of Several Palm Diseases Common in South Florida Landscapes (1, 2, 3, 4, 5).

disease	most useful symptoms	other useful symptoms
Phytophthora bud-rot	<ol style="list-style-type: none"> <li>1. the <u>bud only</u> falls over</li> <li>2. bud has foul odor</li> <li>3. spearleaf rots at base,</li> </ol>	<ol style="list-style-type: none"> <li>4. spearleaf is easy to pull out</li> <li>5. oldest fronds look OK after bud has rotted</li> <li>6. oldest fronds turn yellow, then brown, then collapse, and finally</li> <li>7. fall off.</li> </ol>
Ganoderma butt-rot	<ol style="list-style-type: none"> <li>1. conk or button on lower trunk</li> <li>2. conk growing on the soil or mulch</li> </ol> <p>NOTE: In many cases, no conk or button is noticed.</p>	<ol style="list-style-type: none"> <li>3. older fronds droop, hang parallel to trunk</li> <li>4. leaflets roll back along rachis</li> <li>5. new growth smaller, pale green, shows nutrient deficiencies</li> <li>6. spearleaf dies before opening</li> </ol>
Thielaviopsis bud-rot	<ol style="list-style-type: none"> <li>1. trunk falls over, bending near middle</li> <li>2. stem-bleeding at base, turns black</li> <li>3. smells like wine or beer</li> </ol>	<ol style="list-style-type: none"> <li>4. fallen trunks are hollow and stringy at base</li> </ol>
Lethal Yellowing	<ol style="list-style-type: none"> <li>1. fruit drop, stem-ends watersoaked</li> <li>2. flowers turn brown; drop</li> <li>3. lower foliage yellow, then brown, progresses upward</li> <li>4. "flag leaf"—one leaf turns yellow in middle of crown.</li> </ol> <p>NOTE: in many cases, no flag leaf develops.</p>	<ol style="list-style-type: none"> <li>5. immature fronds turn yellow, then brown,</li> <li>6. but remain upright</li> <li>7. bud dies when 1/2-2/3 of canopy is yellow</li> <li>8. palm dies within 6 months</li> </ol>
Fusarium Wilt	<ol style="list-style-type: none"> <li>1. progressive leaf death from oldest to youngest</li> <li>2. one-sided leaf death from base, up one side of rachis, to tip,</li> <li>3. then down the other side, back to the base</li> <li>4. brown streak on petiole/rachis</li> </ol>	<ol style="list-style-type: none"> <li>5. brown vascular tissue inside striped petiole/rachis</li> <li>6. one side of tree dies</li> <li>7. fungal hyphae may be seen in split petiole/rachis</li> </ol>