

## **Downy Mildew on Cukes Becoming Widespread in Michigan – Other Crops at Risk** M. Hausbeck and A. Gevens, Dept. of Plant Pathology

**All cucumbers in the state are now at a very high risk for downy mildew.** Spray programs for cucumbers must be tight and not exceed a 5-day application interval. The recommended fungicide program remains unchanged:

Apply: Previcur Flex (1.2 pint) + Bravo (or Mancozeb or Maneb)

Alternate with: Tanos 50DF (8 oz.) + Mancozeb (or Maneb or Bravo)

Remember the pre-harvest intervals (PHI) for these products:

**Tanos** – 3 days PHI

**Previcur Flex** – 2 days PHI

**Bravo** – 0 days PHI

**Mancozeb, Maneb** – 5 days PHI

**All other cucurbits including cantaloupe, hard squash, zucchini, and pumpkins are now at risk for downy mildew.** Ohio State is reporting that they have detected downy mildew on pumpkin, cantaloupe, and summer squash. **Currently, there are no confirmed reports from Michigan regarding downy mildew on any of these crops.** Until I learn more about this situation in Ohio, I recommend that the fungicide program listed above be applied at 7-day intervals. (Please note that mancozeb is not registered on pumpkins but maneb may be used).

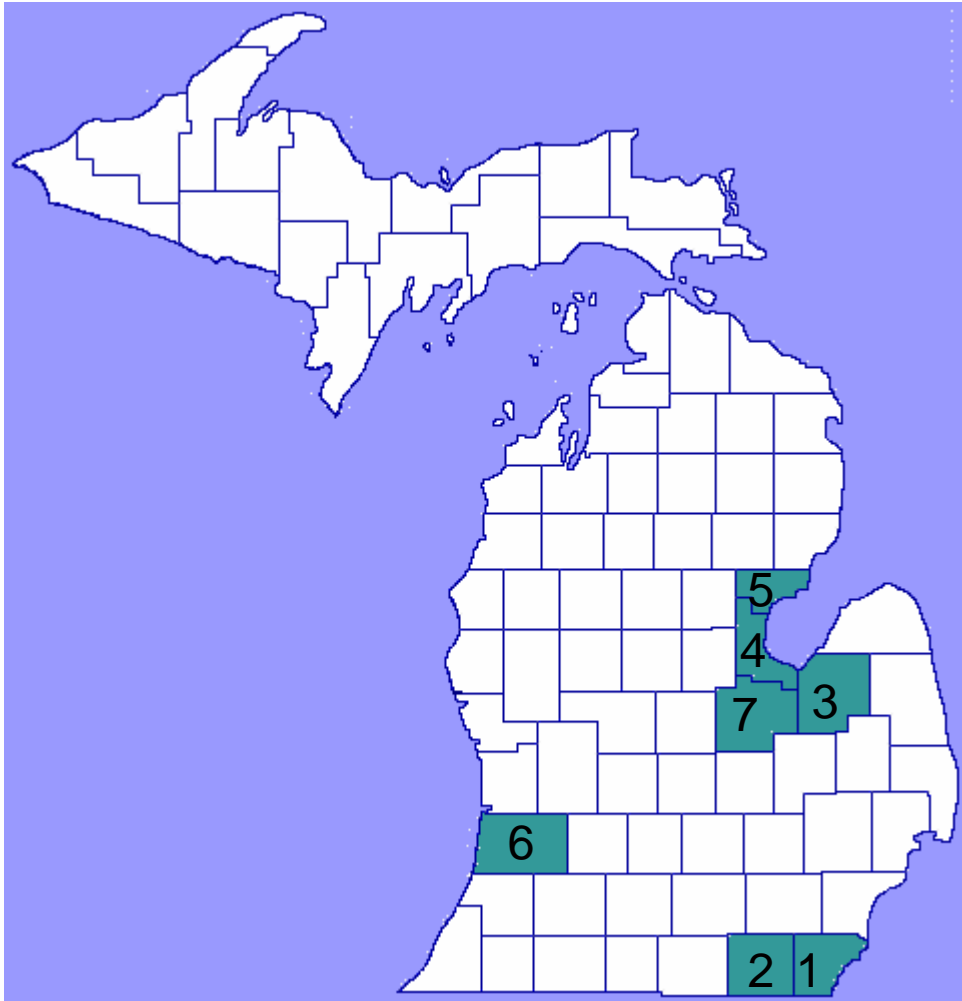
Downy mildew is becoming widespread on cucumbers in Michigan with several counties experiencing significant outbreaks. Just this week, 5 new Michigan counties have been confirmed including the eastern and western regions of the state (see map). In these regions, several large fields are infected. The infections appear to be fairly new (approximately 5 to 7 days old). Although the infections apparently occurred recently, the amount of spores being produced on the undersides of the leaves is especially high.

The weather is not helping us keep the downy mildew contained. The overcast, wet, and humid weather favors this disease and promotes massive production of spores that can be moved to new growing areas. Compared to last year, the weather this year is much more favorable for downy mildew. Not only is downy mildew here earlier this year than last year, but the weather is much more favorable this year than last.

Are the spore traps working? The spore traps are best suited to monitor the spore load in a field that is already infected. Given the nature of the spore trapping, there is always a 7-day lag period until the spore reel is retrieved from the field and then additional time is needed to process the tapes and count the spores. Currently, the spore trap in Monroe is in an infected cucumber field. In the other counties, the spore traps are in fields that currently do not have downy mildew. I'm still in the research mode with these spore traps and it's quite possible that they cannot be used for early detection (see table).

Please remain vigilant and continue to look for any downy mildew symptoms on all cucurbit crops. Each day can bring a report of a new outbreak. All samples must be confirmed by my lab. This will keep false reports to a minimum. My lab (517-355-4576) and Diagnostic Services (517-355-4536) on campus are available to look at any potential downy mildew samples. I can be reached via cell phone at 517-927-4532.

# Confirmed downy mildew reports in Michigan as of July 25, 2006



- |                   |               |
|-------------------|---------------|
| 1. Monroe County  | June 9, 2006  |
| 2. Lenawee County | July 19, 2006 |
| 3. Tuscola County | July 24, 2006 |
| 4. Bay County     | July 24, 2006 |
| 5. Arenac County  | July 24, 2006 |
| 6. Allegan County | July 25, 2006 |
| 7. Saginaw County | July 25, 2006 |

Table 1. Spore trap daily totals (counts/m<sup>3</sup>/day) by location.

Date July	Michigan counties					
	Allegan	Bay	Monroe	Saginaw	St. Joseph	Van Buren
1	0	10	*52	12	7	3
2	2	8	115	8	2	3
3	0	5	8,933	32	0	2
4	2	8	4,345	12	0	15
5	–	2	2,448	3	0	5
6	–	2	1,045	8	5	30
7	0	5	*1,557	2	13	2
8	2	8	6,268	8	20	20
9	5	5	*122	3	0	7
10	3	0	*93	5	3	5
11	2	13	3,970	5	0	2
12	2	2	48,878	5	5	13
13	12	23	48,230	7	18	30
14	12	13	2,162	2	3	5
15	3	2	52,127	5	12	30
16	8	2	14,185	0	22	63
17	3	3	7,637	0	7	53
18	2	**	2,410	2	2	37
19	13	**	*62,013	**	**	**
20	3	**	51,098	**	**	**
21	47	**	*53,398	**	**	**
22	108	**	†85	**	**	**
23	**	**	197	**	**	**
24	**	**	**	**	**	**

\*Spores present but field soil prevents accurate count.

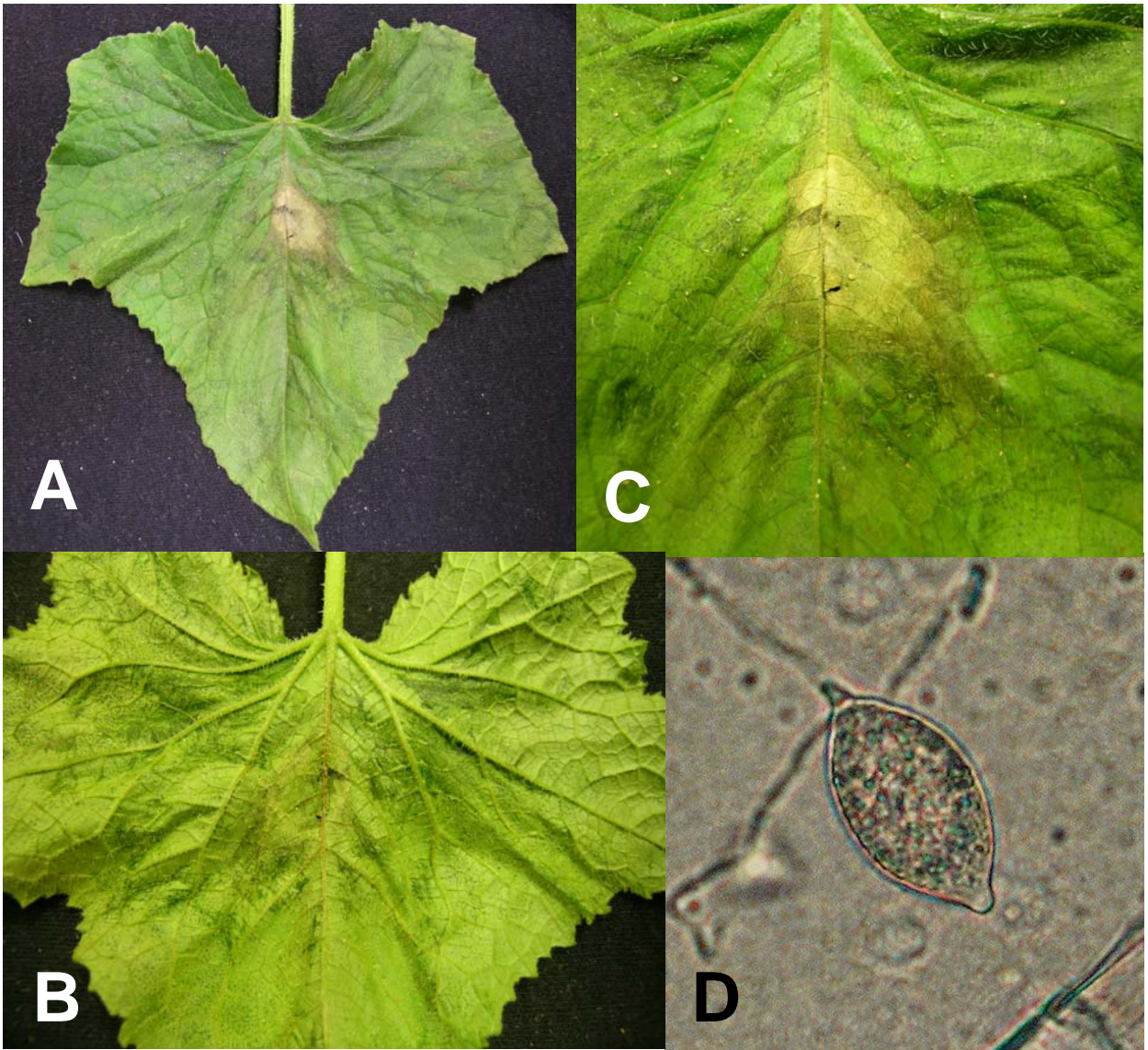
\*\*Spore tapes available, counts pending.

†Spore trap moved to new location.

NOTE: Check my website for updates to this table.

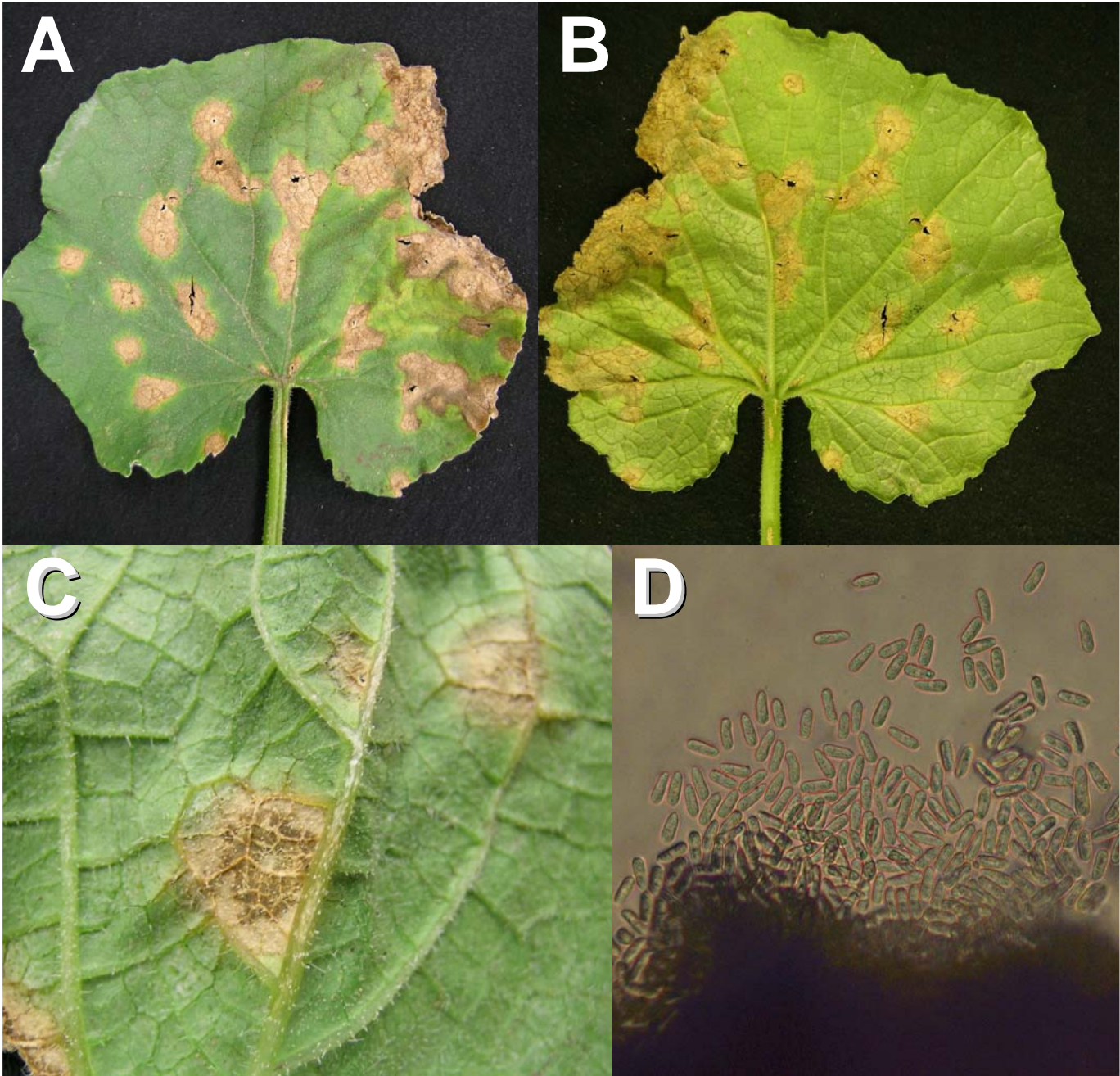
(<http://www.plantpathology.msu.edu/labs/hausbeck/hausbeck.htm>)

## *Phytophthora capsici* on cucumber foliage



A. *Phytophthora* blight on cucumber leaf surface. Note water-soaking and blighted area of leaf. B. Water-soaking on leaf underside. Note brown discoloration in the veins. C. A close up of blight on leaf surface. D. *Phytophthora capsici* spore (sporangium) collected from leaf underside.

Cucumber Anthracnose  
*Colletotrichum orbiculare*



A. Slicing cucumber leaf surface with brown, necrotic lesions caused by *Colletotrichum*. B. Leaf underside with *Colletotrichum* lesions. C. Close up of a *Colletotrichum* lesion on a leaf underside. D. Spores (conidia) of *Colletotrichum* formed on cucumber leaf surfaces.