Diseases of Cotton

Thomas Isakeit

Cooperative Extension, The Texas A&M University System

SEEDLING DISEASES

- PRE-EMERGENCE DAMPING-OFF
- POST-EMERGENCE DAMPING-OFF
- SORESHIN

POSTEMERGENCE DAMPING OFF

SEEDLING DISEASE

SORESHIN AND DECAY CAUSED BY RHIZOCOTONIA SOLANI

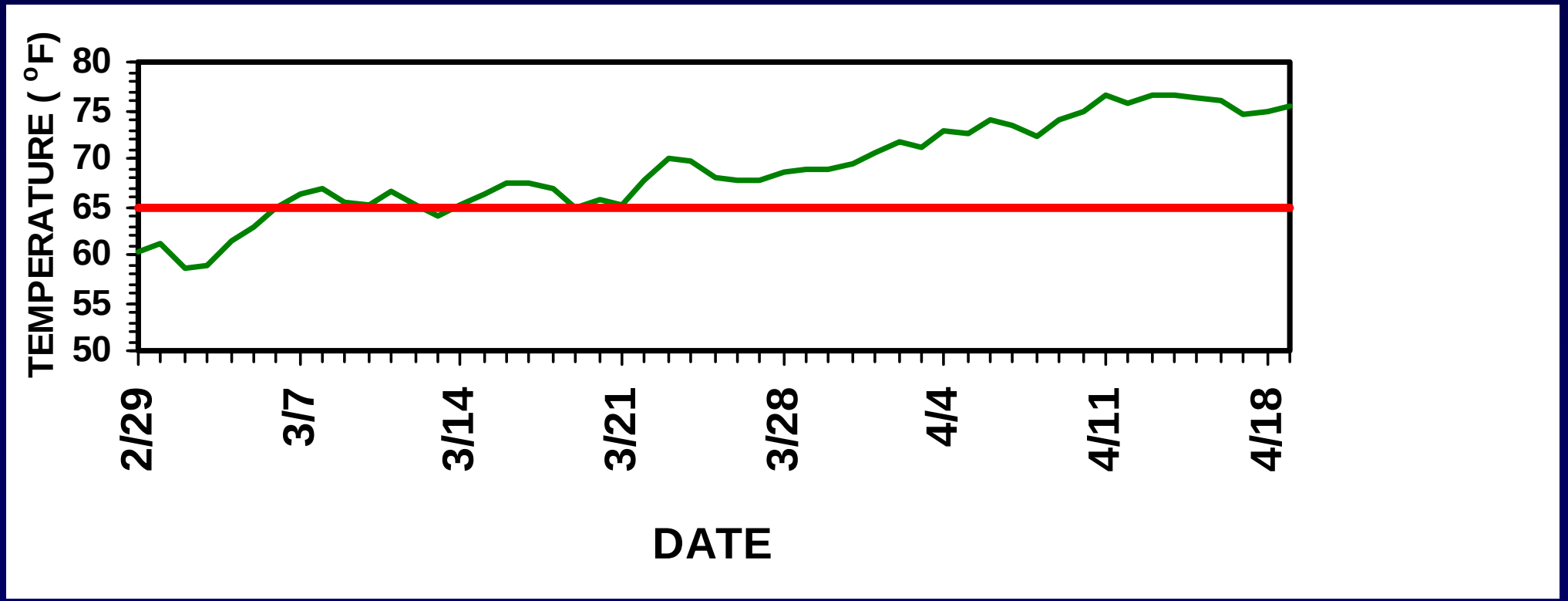
SEEDLING DISEASE

THE BEST MANAGEMENT FOR SEEDLING DISEASE:

WAIT UNTIL SOIL TEMPERATURE IS 65° F. BEFORE PLANTING

WHARTON: SOIL TEMPERATURE

3” - AVERAGE OF SIX YEARS



65 °F: SOIL TEMPERATURE FOR PLANTING

FUNGICIDE SEED TREATMENT

RIGHT SIDE: NO TREATMENT, DAMPING-OFF

LEFT SIDE: FUNGICIDE-TREATED SEED

COTTON SEEDLING DISEASE

SEED TREATMENTS ALONE MAY NOT BE ENOUGH WHEN DISEASE PRESSURE IS HIGH BECAUSE OF:

- LARGE AMOUNT OF RESIDUE
- COOL, WET WEATHER

COTTON SEEDLING DISEASE

COTTON SEEDLING DISEASE

INCREASED IN THE PRESENCE OF FRESHLY-KILLED COVER CROP

IN-FURROW FUNGICIDE APPLICATION:

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FOR MORE INFORMATION:

Http://ipm.tamu.edu/crops/pubs/seedling_diseases.html

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

Cotton root rot (Phymatotrichopsis omnivora). Photo by Tom Isakeit, TAEX, Weslaco, 1995

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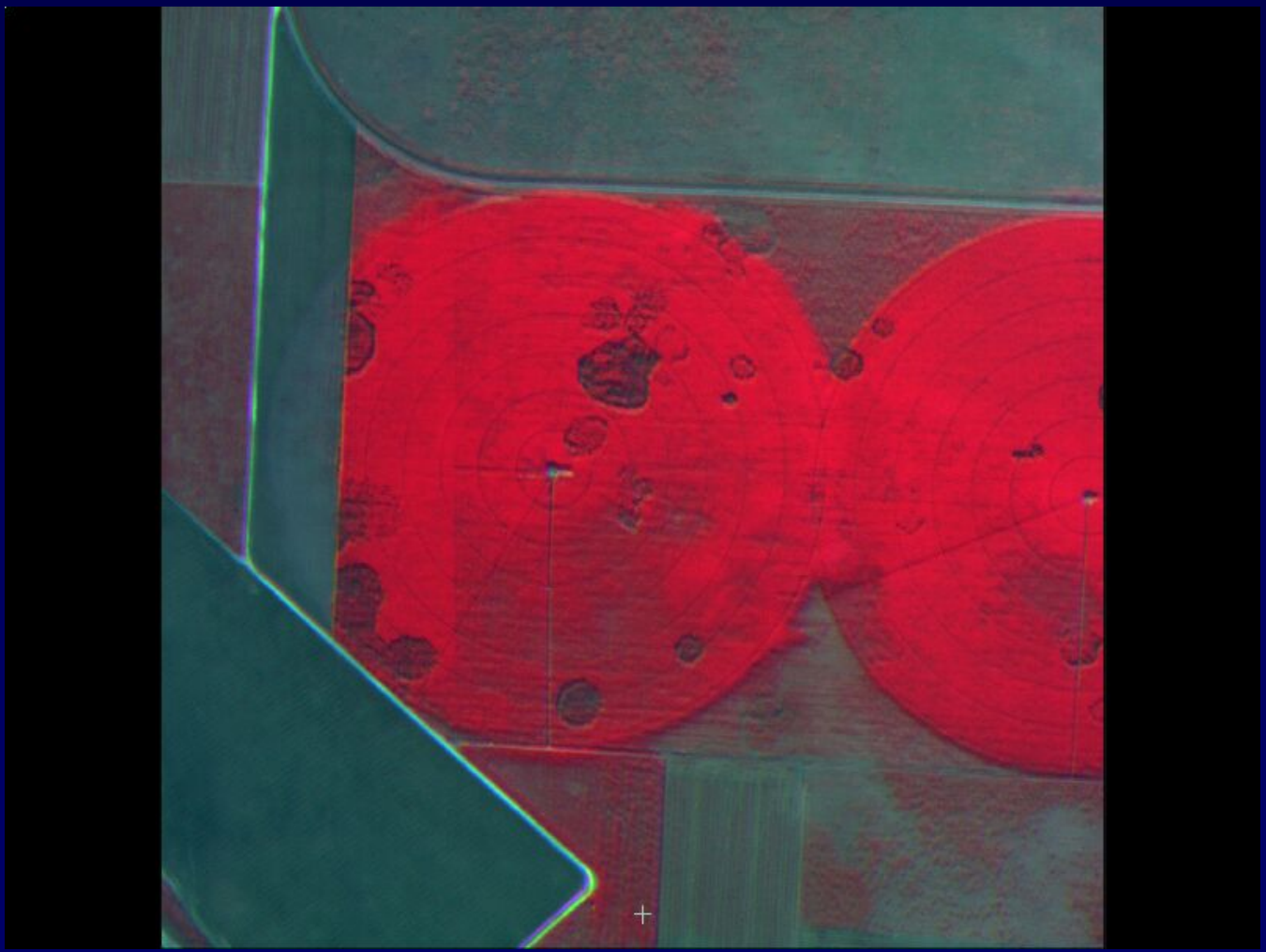

AERIAL PHOTO OF COTTON FIELD ON CENTER PIVOT IRRIGATION, TAKEN WITH INFRARED FILM, SHOWING THE CIRCULAR PATTERN (DARK AREAS) OF DISEASE DEVELOPMENT.

PHOTO COURTESY OF CARLOS FERNANDEZ

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

WILTED PLANT FLANKED BY TWO DEAD PLANTS

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

Cotton root rot (Phymatotrichopsis omnivora). Photo by Tom Isakeit, TAEX, Weslaco, 1995

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

AN EARLY SYMPTOM ASSOCIATED WITH THE INITIAL WILT IS THE PRESENCE OF WHITE MYCELIA ON THE LOWER STEM

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

Mycelial strands (arrow) of Phymatotrichopsis omnivora on lower stem and taproot of cotton. Photo by Tom Isakeit, TAEX, Weslaco, 1994

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

DISTINCTIVE CRUCIFORM BRANCHING OF HYPHAE

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

Spore mat (fresh) of Phymatotrichopsis omnivora on soil surface. Photo by Tom Isakeit, TAEX, Weslaco, 1994

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

Spore mat (dried) of Phymatotrichopsis omnivora on soil surface.
Photo by Tom Isakeit, TAEX, Weslaco, 1994

PHYMATOTRICHOPSIS (COTTON) ROOT ROT:

STRANDS OF THE FUNGUS (LEFT PHOTO) AND SCLEROTIA OF THE FUNGUS (RIGHT PHOTO) IN SOIL. PHOTOS COURTESY OF CHARLES KENNERLEY

RENIFORM NEMATODE:

THREE FEMALES ATTACHED TO A SMALL ROOT

PHOTO CREDIT:

D.C. NORTON

RENIFORM NEMATODE:

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Cotton: Field symptoms of reniform nematode. Photo by Tom Isakeit, TAEX, Weslaco, 1993

RENIFORM NEMATODE:

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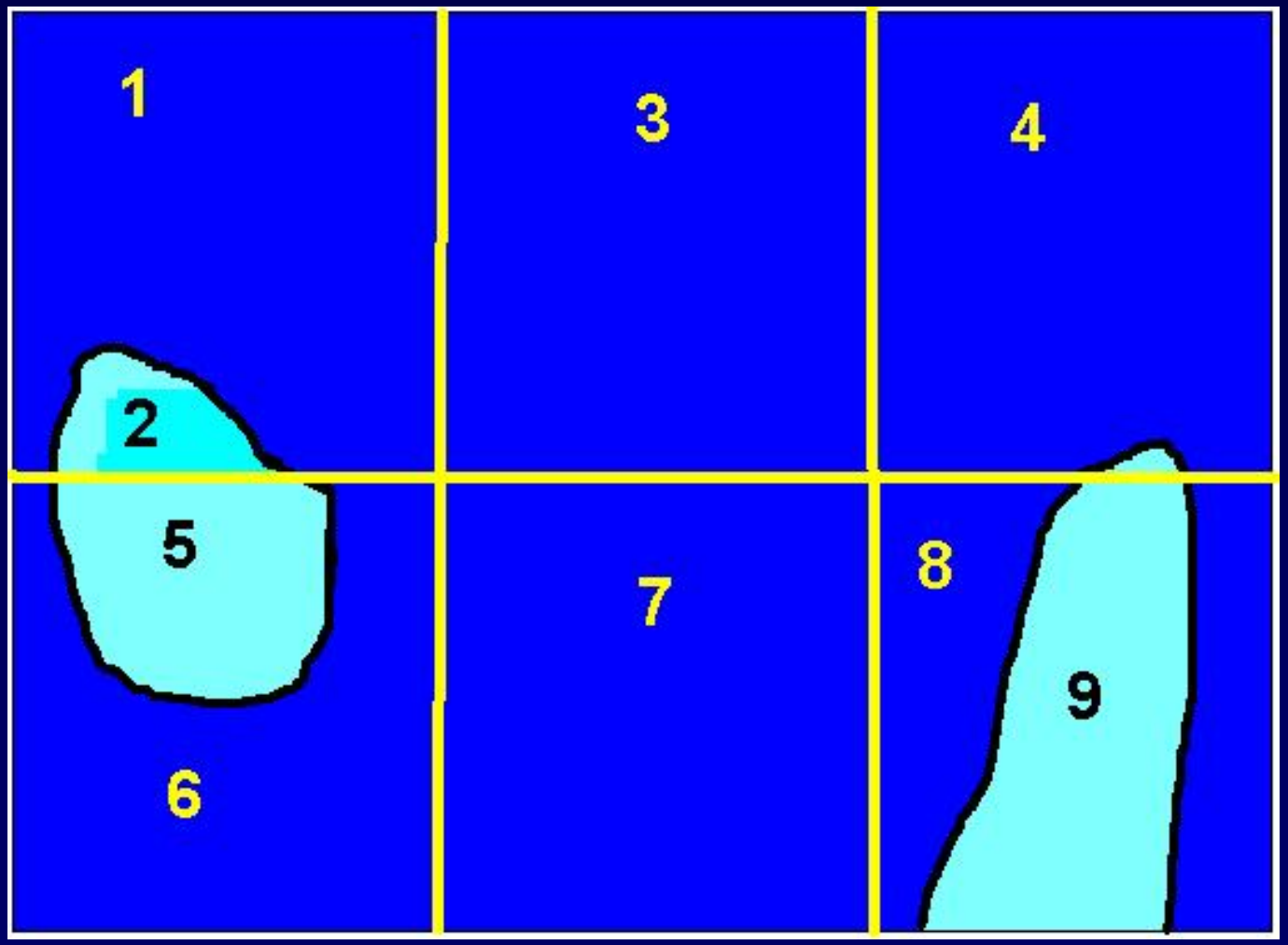
Cotton: Symptom of reniform nematode. Photo by Tom Isakeit, TAEX, Weslaco, 1995

RENIFORM NEMATODE SAMPLING:



2 & 5: AREA OF POOR GROWTH

9: OTHER SOIL TYPE

20-30 CORES FROM 10 ACRE BLOCK

RENIFORM NEMATODE:

POPULATION THRESHOLDS

PREPLANT: 1,000 JUVENILES/PINT

FALL SAMPLE: 5,000 JUVENILES AND ADULTS / PINT

RENIFORM NEMATODE:

CONTROL

* PREVENT NEW INFESTATIONS BY CLEANING EQUIPMENT

* 1- OR 2-YEAR ROTATION WITH CORN, SORGHUM, RICE, RESISTANT SOYBEAN VARIETIES

* WEED-FREE FALLOW

RENIFORM NEMATODE:

TEMIK OR TELONE LIMITATIONS

* HOLD POPULATIONS DOWN FOR SIX WEEKS ONLY

* CHEMICALS HAVE LIMITED MOVEMENT IN HEAVY SOILS

* NEMATODES CAN BE FOUND SEVERAL FEET DEEP

PREMATURE DEFOLIATION:

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PREMATURE DEFOLIATION:

* CAUSE IS NOT KNOWN
* WIDESPREAD, MANY VARIETIES
* FOLIAR PATHOGENS: MINOR
* K DEFICIENCY?
  - WATER IMBALANCE
  - STRESS OF FRUIT LOAD

FUSARIUM WILT:

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VASCULAR DISCOLORATION SEEN WHEN STEM IS CUT

ROOT KNOT NEMATODE:

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SOUTHWESTERN COTTON RUST:

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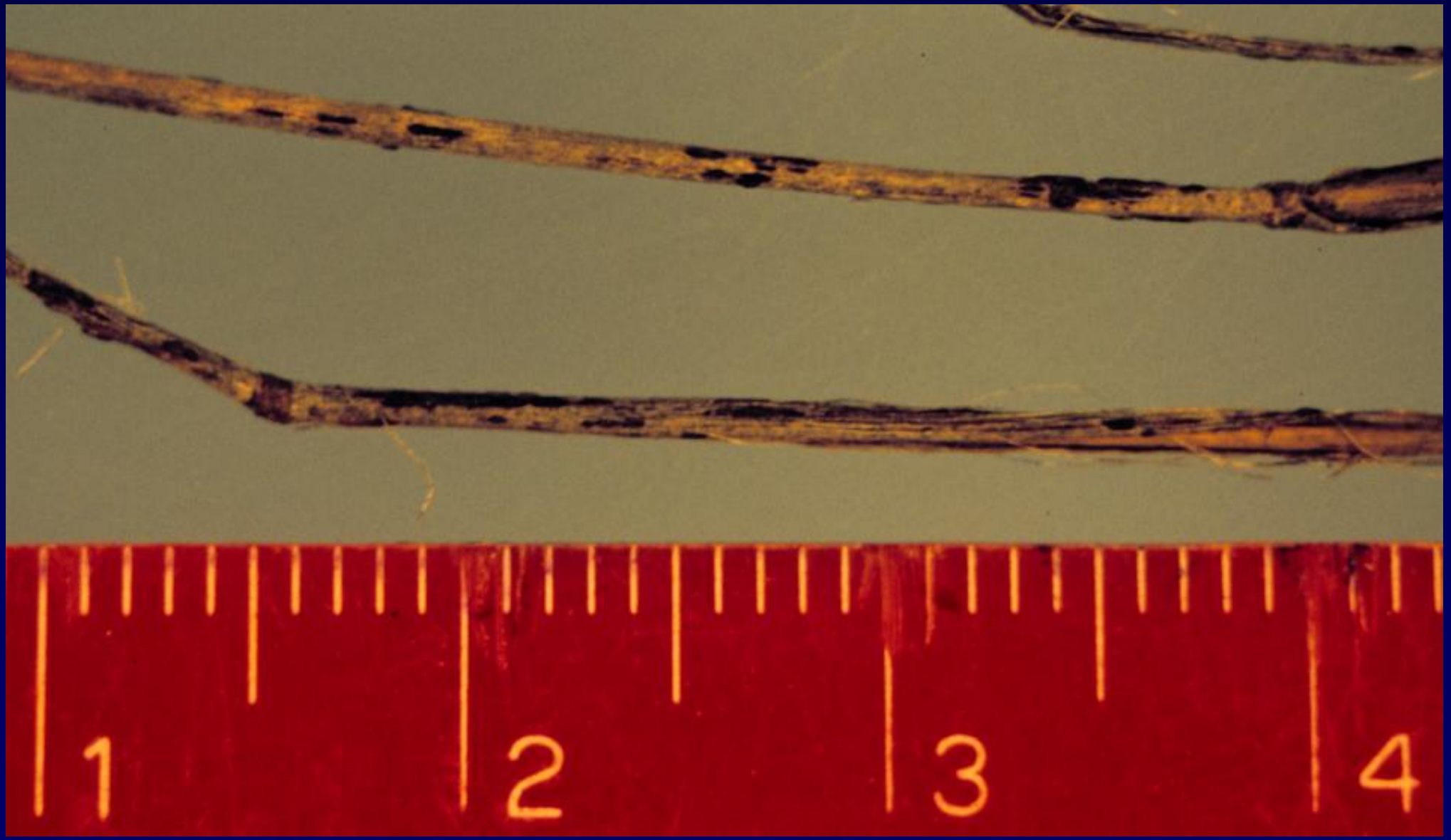
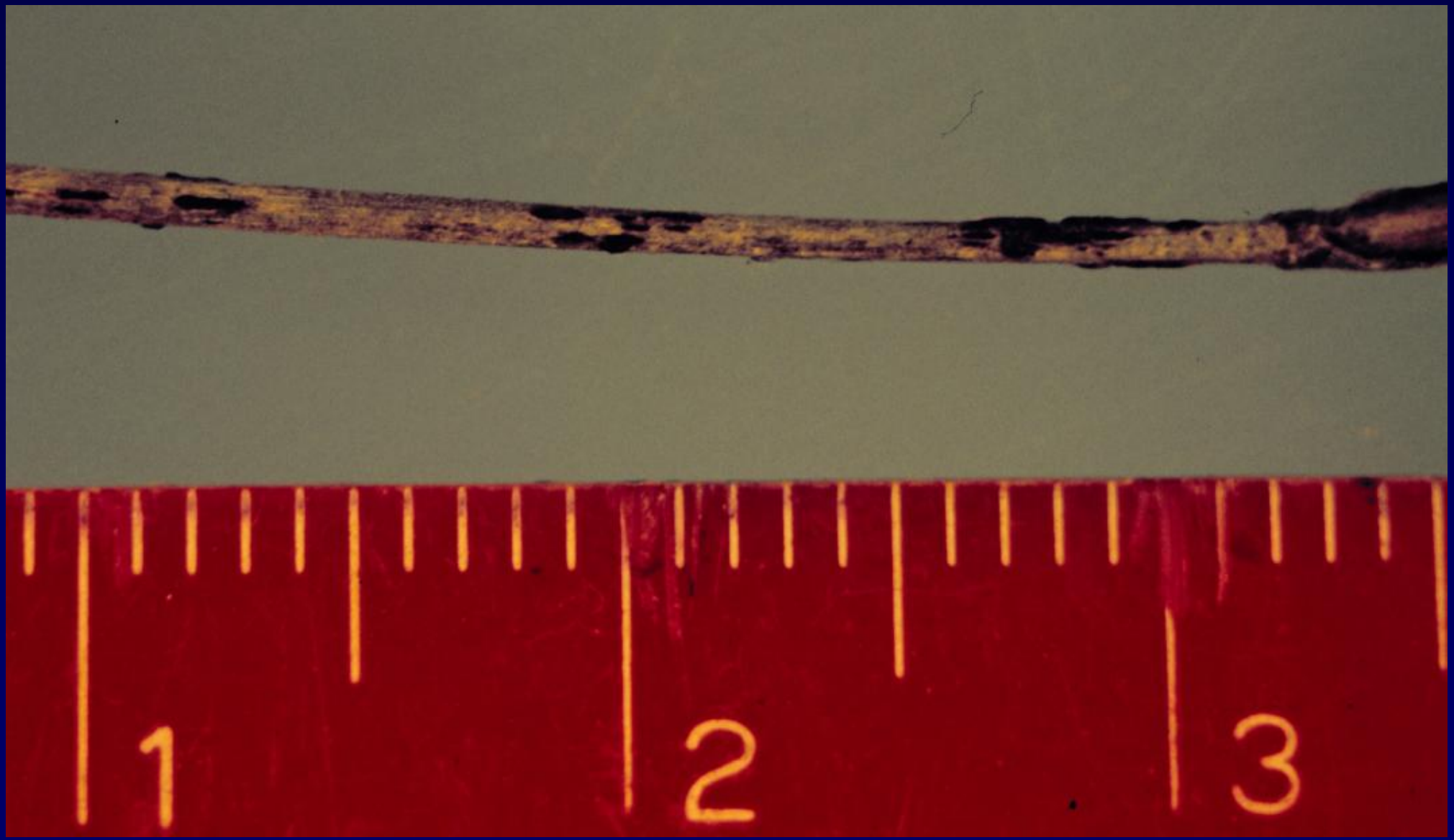
RUST ON GRAMA GRASS:



RUST ON GRAMA GRASS:



VERTICILLIUM WILT:

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VASCULAR DISCOLORATION SEEN WITH CUT STEM

PHYTMATOTRICHOPSIS VS. VERTICILLIUM:

PHYMATOTRICHOPSIS ROOT ROT

VERTICILLIUM WILT

BACTERIAL BLIGHT:

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