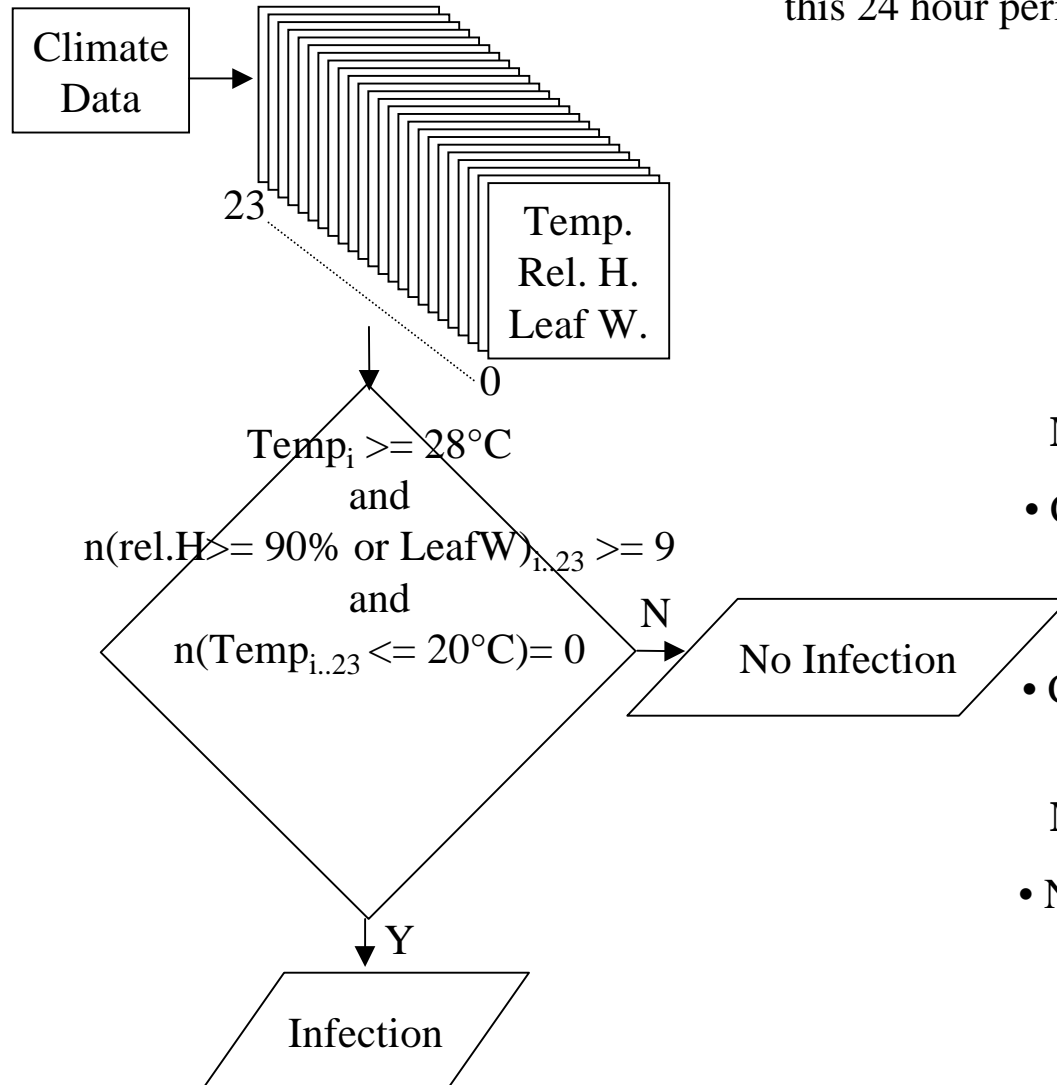


# Turf Gras

## Pythium Disease

... is favoured by warm and humid climate. If temperature is higher than 28°C and never lower than 20°C within a 24 hour period and a moist period of more than 9 hours occurs within this 24 hour period a Pythium infection can be suspected.



**Model Input:** Climate data for

- Temperature
- relative Humidity
- Leaf Wetness

**Model Calculation:**

- Count of hours with relative humidity higher than 90% or leaf wetness after Temperature has been higher than 28°C
- Comparison if there has been no temperature lower than 20°C during moist period

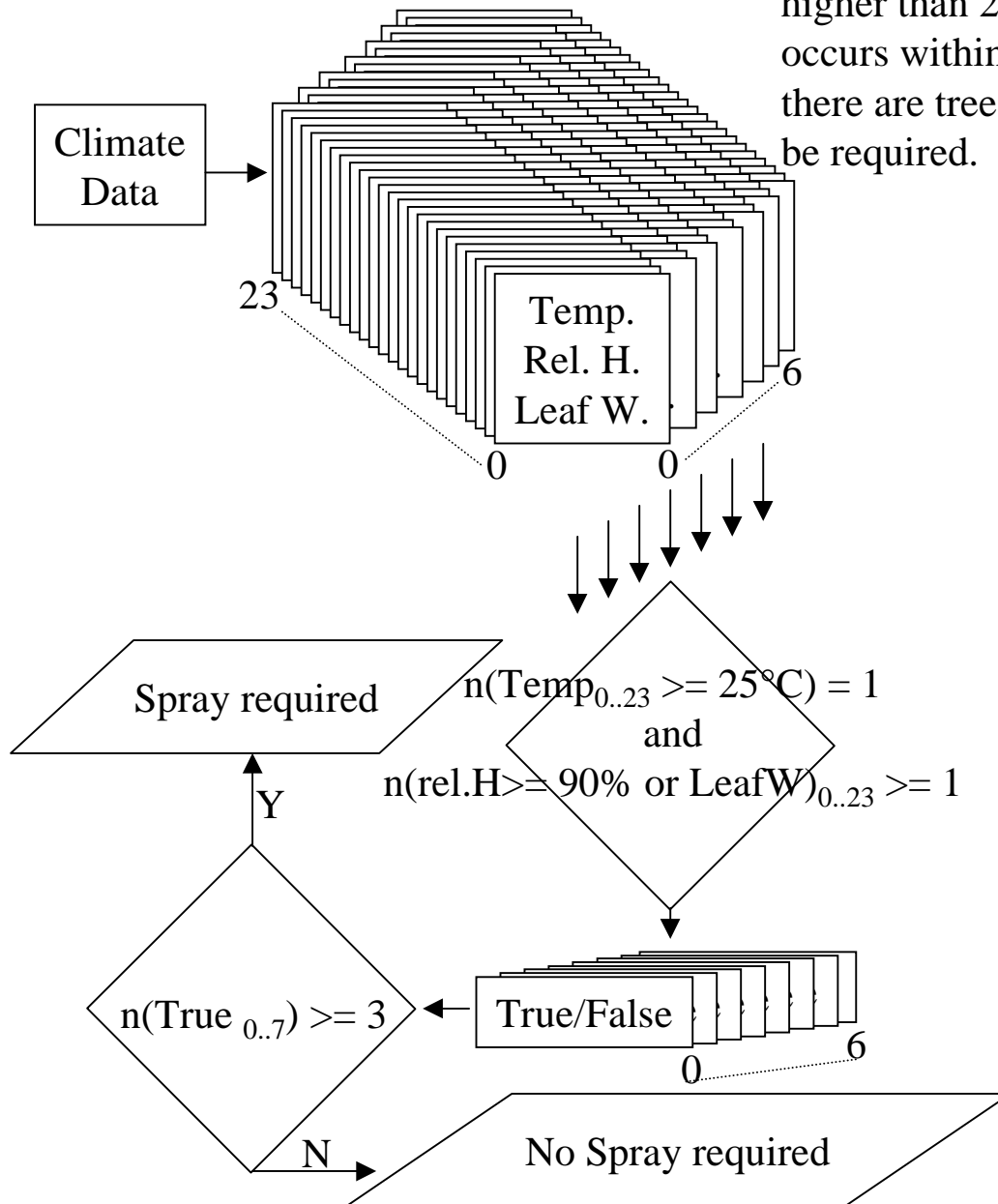
**Model Output:**

- Numbers of hours with moist conditions (0 if temperature condition is not valid)
- Flag if infection condition is fulfilled

# Turf Gras

## Dollar Spot

... is favoured by warm and humid climate. If temperature is higher than 25°C within a 24 hour period and a moist period of occurs within this 24 hour period a risky day is indicated. If there are tree risky days out of seven a Dollar Spot Spray will be required.



**Model Input:** Climate data for

- Temperature
- relative Humidity
- Leaf Wetness

**Model Calculation:**

- Comparison if there has been a temperature higher than 25°C within 24 hours
- Comparison if there has been a relative humidity higher than 90% within 24 hours
- Count of days where the conditions above has been fulfilled out of 7 days

**Model Output:**

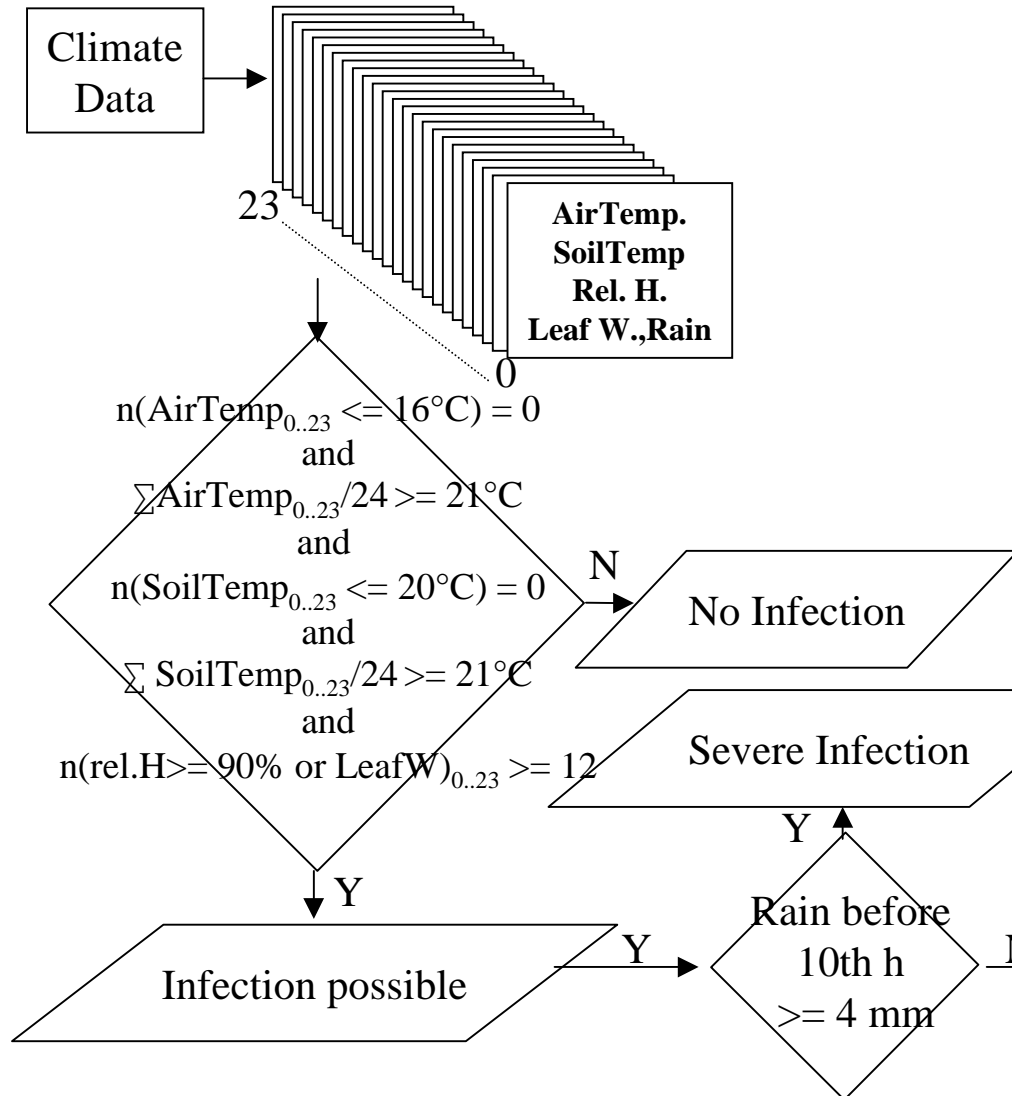
- Numbers of days where the conditions have been fulfilled out of 7

- Flag if spray conditions fulfilled

# Turf Gras

## Brown Patch

... is favoured by warm and humid climate. If average air temperature is higher than 21°C, air temperature is never lower than 16°C, average soil temperature is higher than 21°C, soil temperature is never lower than 20°C within a 24 hour period, a moist period of more than 12 hours and a rain with more than 2 mm occurs within this 24 hour period a Brown Patch infection can be suspected.



### Model Input:

- Air and Soil Temperature
- relative Humidity
- Leaf Wetness
- Rain

### Model Calculation:

- Comparison if there has been no air temperature lower than 16°C and if the average has been higher than 21°
- Comparison if there has been no soil temperature lower than 20°C and if the average has been higher than 21°
- Count of hours with relative humidity higher than 90% or leaf wetness
- Rain Count

### Model Output:

- Flag possible infection only irrigation water needed
- Flag for moderate and severe infection precipitation monitored by the rain gauge



# Turf Gras

## Data Presentation on $\mu$ METOS Display:

$\mu$ METOS is presenting hourly values of every disease in a separate screen. Daily maximum values are presented on the click of both buttons.

Turf Gras Phytium Disease  
 Nb Wet Hours (hh), Infection Flag (I)  
**M-DD HH hh I**

Label

5-12 07 8
5-12 08 9 *
M-DD HH hh I
M-DD HH hh I

Screen

Turf Gras Dollar Spot  
 Nb Infection Days (d), Infection Flag (I)  
**M-DD HH P d I**

Label

5-12 07 2
5-12 08 3 *
M-DD HH P d I
M-DD HH P d I

Screen

Turf Gras Brown Patch  
 Infection Possible (P), Rain (RA), Light Inf. (L), Severe Inf. (S)  
**M-DD HH P RA L S**

Label

5-12 07 * 00
5-12 08 * 04 * *
M-DD HH P RA L S
M-DD HH P RA L S

Screen

# Turf Gras

## Result Graph

Brown Patch Flag for severe and moderate Infection

Progress Graph for Phytium, Dollar Spot and Brown Patch

**µLink and MetWin II** are graphing all turf diseases in one screen.

Phytium Infection Flag

Dollar Spot Spray needed Flag

