

# Web-Based Calculation of % Relative Humidity or Wet Bulb Temperature Using the Thunder Scientific Web HumiCalc By Gina Searls

1. Begin by logging into the **Thunder Scientific** web site: [www.thunderscientific.com](http://www.thunderscientific.com)
2. Click on the **Web HumiCalc** link on the left menu bar.
3. From the **Web HumiCalc** page you will be able to log in and download the HumiCalc program software.

Or you can purchase a **desktop version** of the software which allows graphing and saving for approximately \$100.



4. **Downloading Web HumiCalc software:**

System requirements: Microsoft Windows 95, 98, NT 4.0, 2000, or XP or above.



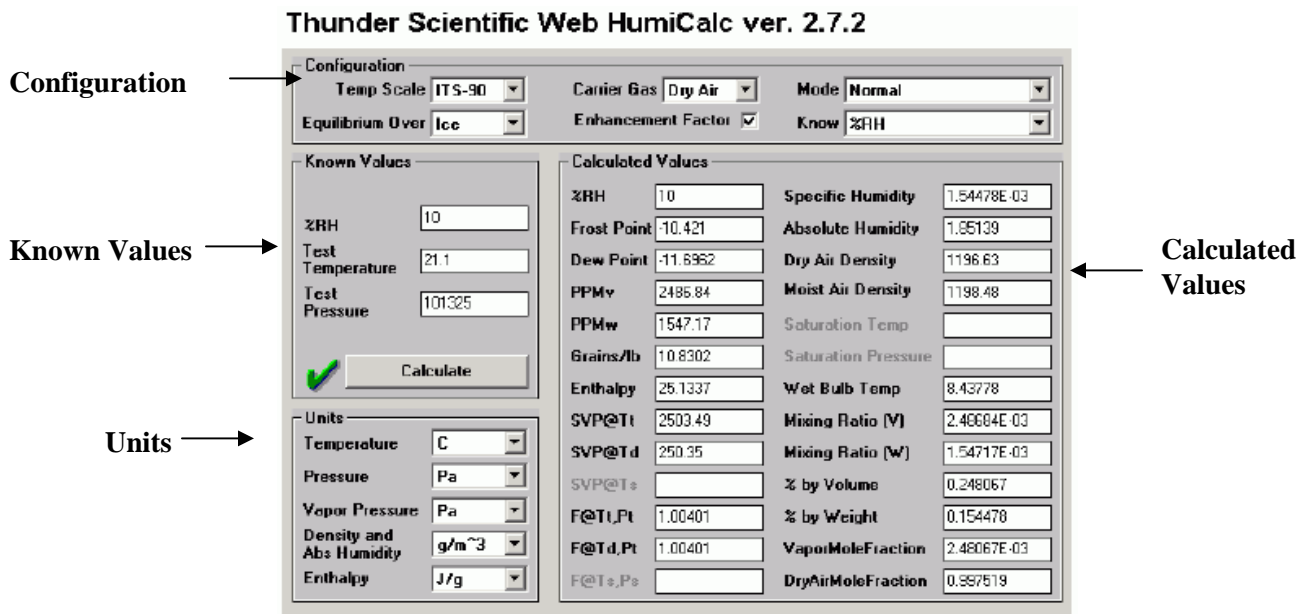
Browser: Internet Explorer 4.0 or higher.

[Activate Active-X controls in the security setting. Turn OFF pop-up blockers. Help is available from the company if you experience problems during the downloading process.]

*Initial installation of the program may be frustrating due to the browser security settings; however, future downloading and use*

*of the program will be very simple.*

5. The **calculating screen** will automatically appear once you have successfully downloaded the software. This screen contains 4 separate areas: **configuration**, **known values**, **units**, and **calculated values**. (see below)
6. Once you have the value for %RH or WB, enter this in your record log. Detailed examples on using the Web HumiCalc are presented below.



EXAMPLE: Calculating %RH

**Configuration area:**

- Set Temp scale to ITS 90
- Set Equilibrium Over to ICE
- Set Gas Carrier to DRY AIR
- Check the ENHANCEMENT FACTOR
- Set Mode to NORMAL
- Set Know to WET BULB TEMPERATURE

**Known Values area:**

- Wet Bulb Temperature: (enter your web bulb reading)
- Test Temperature: (enter your dry bulb reading)
- Set Test Pressure to 101325 when units are Pa. [Pressure values will change if you change the pressure units.]

**Units area:** Select °C or °F

Check **Calculate** and the program will generate the **%RH**.

**For example:** If you enter WB=140°F and DB=170°B, then %RH =45.3278.

### EXAMPLE: Calculating Wet Bulb

#### **Configuration** area:

- Set Temp scale to ITS 90
- Set Equilibrium Over to ICE
- Set Gas Carrier to DRY AIR
- Check the ENHANCEMENT FACTOR
- Set Mode to NORMAL
- Set Know to %RH

#### **Known Values** area:

- %RH: (enter your %RH)
- Test Temperature: (enter your dry bulb reading)
- Set Test Pressure to 101325 when units are Pa. [Pressure values will change if you change the pressure units.]

**Units** area: Select °C or °F

Check **Calculate** and the program will generate the **Wet Bulb** temperature.

**For example:** If you enter DB=170°B and %RH=45, then WB=139.7538°F (~140°F).

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*The University of Wisconsin-Madison Center for Meat Process Validation provides science-based HACCP support to small meat processors in meeting state and federal mandates for safe food processing and handling. For more information on the Center contact Dr. Steve Ingham, 1605 Linden Drive, UW-Madison, Madison, WI 53706 (608) 265-4801 Email: [scingham@wisc.edu](mailto:scingham@wisc.edu)*

