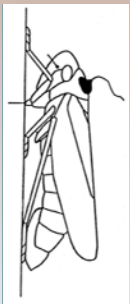# Trimmer

- This section is optional and controversial.
- The problem
  - All recordings end, and the end is usually caused by human intervention. If the insect is in waveform E2 at the end, it is expected that the insect would have continued in E2 for some undefined period of time had the recording continued. In this case, E2 is an artificially terminated event.

Controversy

- The artificially terminated event will bias your data. In some cases it will bias your data even if you delete it.
- The controversy is over whether to keep or delete these events.
- The correct approach depends on the insect and the limits of equipment and research methodology. A more complete discussion will be presented elsewhere.
- Trimmer deletes these events.

Conditions

- Trimmer follows these rules:
  - Given a cut-off time that you provide, trimmer will delete all events that end after this time except as follows:
  - If the ending event is NP it will be retained.
  - If there are additional behaviors after the cut-off time, the behavior that starts before the cut-off and ends after the cut-off will be retained.

Using Trimmer

- Find the shortest duration in the file.
- Start by opening PsyllidData1.csv in Excel.
- Type this into cell D2, and fill down.

=IF(A2=A1,C2+D1,C2)

- Type this into cell E2, and fill down.

=IF(A2=A3,"",D2)

- Type this into cell E1, and record the answer (82772.94) or 22.6 hours.

=min(E2:E2500)

Caution

- You can run Trimmer with this value, or you can delete the insect from the data file.

- In cell F2 I can type this and fill down.

=IF(E2=E1,"Any Text You Want Here","")

- I scroll down to find that the insect b7 has the shortest value.

- I can delete the value in cell E529 and see that my new minimum is 84065.72 (22.97 hours)
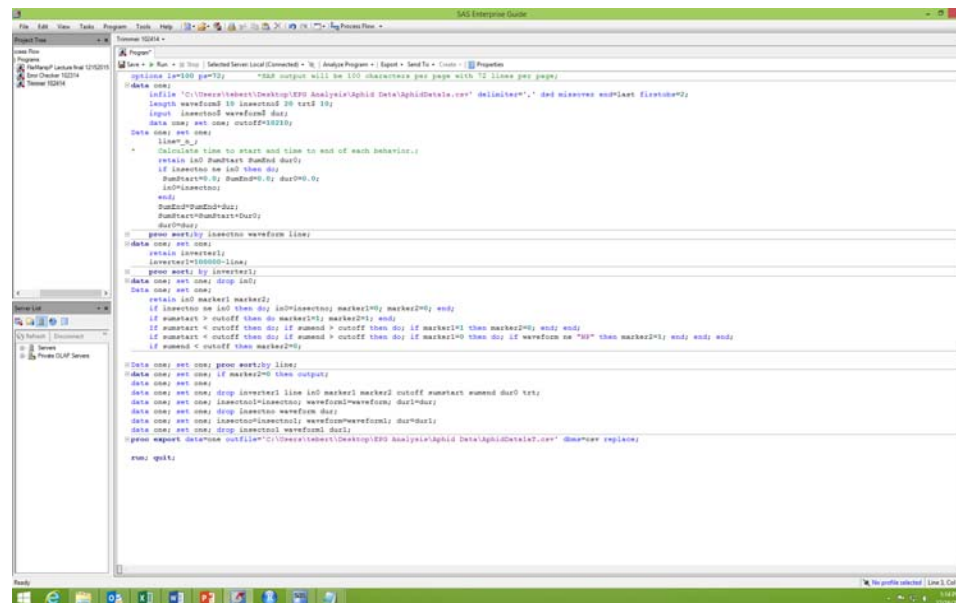
Decision

- Given that I have only three insects in treatment A, I will live with the loss of about 3 hours of recording.

- The best option would be to gather more data, but this is an example.

- I would save the corrected file under a different name: AphidData1a.csv

Running trimmer

- Open Trimmer in Enterprise Guide

See Details

- Change infile, export file and cutoff to some value a little less than the minimum duration.
- I typically add a T to the file name to indicate a trimmed data file.

Details

```
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📄 Program
Save ▾  ▶ Run ▾  ■ Stop | Selected Server: Local (Connected)  ▾ 🔍 | Analyze Program ▾ | Export ▾ Send To ▾  Create ▾ | 📋 Properties

options ls=100 ps=72;          *SAS output will be 100 characters per page with 72 lines per page;
data one;
    infile 'C:\Users\tebert\Documents\Elaine EPG Work\Insecticide Trials\FulFill Project 3\Raw Data\Raw Data
    length waveform$ 10 insectno$ 20 trt$ 10;
    input  insectno$ waveform$ dur;
    data one; set one; cutoff=84040;
Data one; set one;
    line=_n_;
*    Calculate time to start and time to end of each behavior.;
    retain in0 SumStart SumEnd dur0;

data one; set one; drop inverter1 line ino marker1 marker2 cutoff SumStart SumEnd dur0 trt;
data one; set one; insectno1=insectno; waveform1=waveform; dur1=dur;
data one; set one; drop insectno waveform dur;
data one; set one; insectno=insectno1; waveform=waveform1; dur=dur1;
data one; set one; drop insectno1 waveform1 dur1;
proc export data=one outfile='C:\Users\tebert\Documents\Elaine EPG Work\Insecticide Trials\FulFill Project 3\Raw Data\Raw Data TRT3T.csv' dbms=csv replace;

run; quit;
```

Run Trimmer

- The program should look like this:

- Run Trimmer