Leaf Drop Data

By Mike Christie: Tewksbury Memorial High School class of 2012

Task: To Graph 7 Years of Leaf Drop Data that includes 40 Trees, 80+ branches, and over 400 Leaves into one graph

Data needed to be mathematically manipulated to make it standard. Standard = 50% leaf drop

To calculate: see below

Dr. John O'Keefe's Method for Calculating 50%

1. Choose a date that is just beyond to 50% date and a date just before the 50% date.

2. Calculate the % of leaves dropped for each date.

3. Subtract % of earlier date from 50%. This will become the numerator of the first fraction.

4. Subtract % of earlier date from % of later date. This will become the denominator of the first fraction.

5. X will be the numerator of the second fraction.

6. The number days between the two dates will be the denominator of the second fraction.

7. These two fractions will form a proportional equation. Use the equation to solve for X.

8. The value for X should be added to the earlier Julian Date. This date is the correct 50% date to use in the graph.

Then, the 50% Leaf Drop
for each species
was averaged together
for each year.

Graph

year	SM	ROBO
2005	295	307
2006	290	293
2007	301	300
2008	297	305
2009	297	300
2010	291	299
2011	294	307

50% Leaf Drop Averages

Julian Date vs Year

- SM
- ROBO
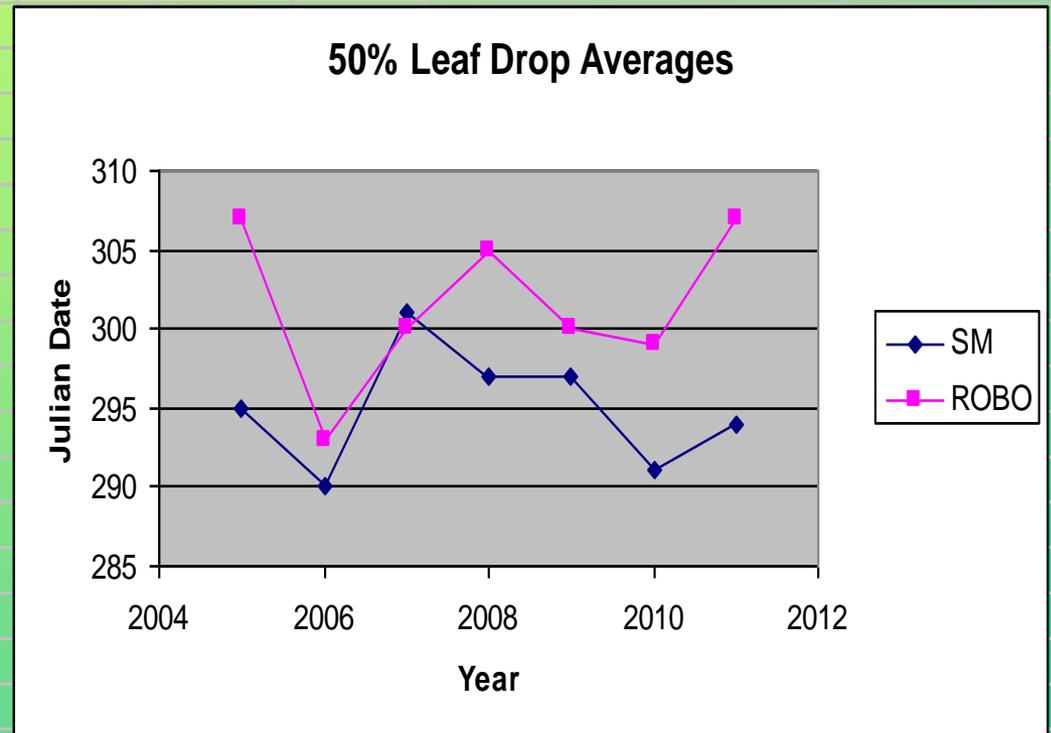
Special Thanks To:

Dr. John O'Keefe

Dr. Betsy A. Colburn

Dr. Emery Boose

Pamela Snow

Without their help and support,
this graph would not exist.