Chilling Experiment Figures

Figure 1: Day of budburst and the day of leaf out for native tree species in New England. Data was collected from a growth chamber experiment using any combination of two photoperiod treatments, two forcing treatments, and three chilling treatments. The standard deviation is represented in blue for budburst and green for leaf out.

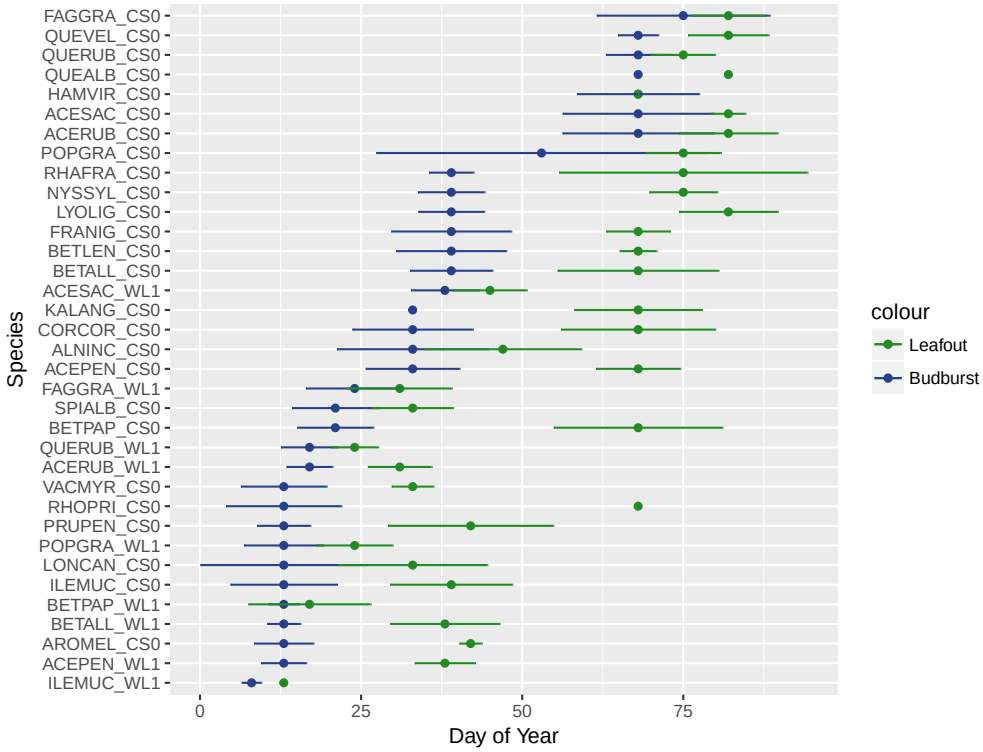

Table 1: Anova results for duration of vegetative risk by chilling, forcing, and photoperiod effects for each species.

	ACEPEN.Sum.Sq	ACEPEN.Df	ACEPEN.F.value	ACEPEN.Pr..F.
chilling	1.191E+02	1.000E+00	1.925E+00	1.682E-01
forcing	4.883E+03	1.000E+00	7.890E+01	1.600E-14
photoperiod	1.300E+03	1.000E+00	2.101E+01	1.230E-05
Residuals	6.685E+03	1.080E+02		

	ACERUB.Sum.Sq	ACERUB.Df	ACERUB.F.value	ACERUB.Pr..F.
chilling	6.195E-01	1.000E+00	9.371E-03	9.231E-01
forcing	1.742E+03	1.000E+00	2.635E+01	1.400E-06
photoperiod	4.629E+02	1.000E+00	7.002E+00	9.461E-03
Residuals	6.611E+03	1.000E+02		

	ACESAC.Sum.Sq	ACESAC.Df	ACESAC.F.value	ACESAC.Pr..F.
chilling	1.554E+01	1.000E+00	2.174E-01	6.426E-01
forcing	2.699E+02	1.000E+00	3.776E+00	5.640E-02
photoperiod	2.248E+02	1.000E+00	3.145E+00	8.090E-02
Residuals	4.575E+03	6.400E+01		

	ALNINC.Sum.Sq	ALNINC.Df	ALNINC.F.value	ALNINC.Pr..F.
chilling		0.000E+00		
forcing	1.025E+03	1.000E+00	5.959E+00	1.929E-02
photoperiod	1.985E+02	1.000E+00	1.154E+00	2.893E-01
Residuals	6.709E+03	3.900E+01		

	AROMEL.Sum.Sq	AROMEL.Df	AROMEL.F.value	AROMEL.Pr..F.
chilling		0.000E+00		
forcing	3.741E+02	1.000E+00	4.004E+01	1.364E-04
photoperiod	1.268E+02	1.000E+00	1.357E+01	5.049E-03
Residuals	8.408E+01	9.000E+00		

	BETALL.Sum.Sq	BETALL.Df	BETALL.F.value	BETALL.Pr..F.
chilling	2.871E+02	1.000E+00	5.317E+00	2.267E-02
forcing	1.464E+03	1.000E+00	2.711E+01	7.110E-07
photoperiod	6.171E+02	1.000E+00	1.143E+01	9.506E-04
Residuals	7.183E+03	1.330E+02		

	BETLEN.Sum.Sq	BETLEN.Df	BETLEN.F.value	BETLEN.Pr..F.
chilling		0.000E+00		
forcing	1.383E+03	1.000E+00	1.888E+01	3.139E-04
photoperiod	5.396E+02	1.000E+00	7.367E+00	1.336E-02
Residuals	1.465E+03	2.000E+01		

	BETPAP.Sum.Sq	BETPAP.Df	BETPAP.F.value	BETPAP.Pr..F.
chilling	4.552E+00	1.000E+00	5.543E-02	8.142E-01
forcing	1.781E+03	1.000E+00	2.168E+01	7.930E-06
photoperiod	1.104E+03	1.000E+00	1.345E+01	3.587E-04
Residuals	1.051E+04	1.280E+02		

	CORCOR.Sum.Sq	CORCOR.Df	CORCOR.F.value	CORCOR.Pr..F.
chilling		0.000E+00		
forcing	9.417E+02	1.000E+00	1.426E+01	5.059E-04
photoperiod	6.602E+02	1.000E+00	9.999E+00	2.945E-03
Residuals	2.707E+03	4.100E+01		

	FAGGRA.Sum.Sq	FAGGRA.Df	FAGGRA.F.value	FAGGRA.Pr..F.
chilling	6.029E+01	1.000E+00	1.365E+00	2.468E-01
forcing	7.223E+02	1.000E+00	1.636E+01	1.396E-04
photoperiod	2.083E+00	1.000E+00	4.718E-02	8.287E-01
Residuals	2.914E+03	6.600E+01		

	FRANIG.Sum.Sq	FRANIG.Df	FRANIG.F.value	FRANIG.Pr..F.
chilling		0.000E+00		
forcing	1.094E+03	1.000E+00	2.311E+01	2.420E-05
photoperiod	5.191E+02	1.000E+00	1.096E+01	2.043E-03
Residuals	1.799E+03	3.800E+01		

	HAMVIR.Sum.Sq	HAMVIR.Df	HAMVIR.F.value	HAMVIR.Pr..F.
chilling		0.000E+00		
forcing	9.204E+01	1.000E+00	3.368E+00	8.067E-02
photoperiod	5.042E+00	1.000E+00	1.845E-01	6.719E-01
Residuals	5.739E+02	2.100E+01		

	ILEMUC.Sum.Sq	ILEMUC.Df	ILEMUC.F.value	ILEMUC.Pr..F.
chilling	2.563E+01	1.000E+00	1.045E+00	3.084E-01
forcing	2.263E+03	1.000E+00	9.228E+01	5.390E-17
photoperiod	1.036E+03	1.000E+00	4.226E+01	1.400E-09
Residuals	3.335E+03	1.360E+02		

	KALANG.Sum.Sq	KALANG.Df	KALANG.F.value	KALANG.Pr..F.
chilling		0.000E+00		
forcing	1.362E+03	1.000E+00	1.022E+01	1.513E-02
photoperiod	1.146E+03	1.000E+00	8.597E+00	2.196E-02
Residuals	9.330E+02	7.000E+00		

	LONCAN.Sum.Sq	LONCAN.Df	LONCAN.F.value	LONCAN.Pr..F.
chilling		0.000E+00		
forcing	2.647E+02	1.000E+00	9.722E+00	3.834E-03
photoperiod	5.067E+02	1.000E+00	1.861E+01	1.440E-04
Residuals	8.714E+02	3.200E+01		

	LYOLIG.Sum.Sq	LYOLIG.Df	LYOLIG.F.value	LYOLIG.Pr..F.
chilling		0.000E+00		
forcing	2.028E+03	1.000E+00	4.470E+01	2.160E-06
photoperiod	7.641E+01	1.000E+00	1.684E+00	2.099E-01
Residuals	8.621E+02	1.900E+01		

	NYSSYL.Sum.Sq	NYSSYL.Df	NYSSYL.F.value	NYSSYL.Pr..F.
chilling		0.000E+00		
forcing	1.270E+03	1.000E+00	3.136E+01	1.760E-05
photoperiod	3.174E+02	1.000E+00	7.839E+00	1.106E-02
Residuals	8.098E+02	2.000E+01		

	POPGRA.Sum.Sq	POPGRA.Df	POPGRA.F.value	POPGRA.Pr..F.
chilling	3.771E+01	1.000E+00	5.452E-01	4.621E-01
forcing	2.412E+03	1.000E+00	3.488E+01	5.070E-08
photoperiod	1.013E+03	1.000E+00	1.465E+01	2.282E-04
Residuals	6.778E+03	9.800E+01		

	PRUPEN.Sum.Sq	PRUPEN.Df	PRUPEN.F.value	PRUPEN.Pr..F.
chilling		0.000E+00		
forcing	1.977E+03	1.000E+00	2.522E+01	8.970E-06
photoperiod	4.028E+02	1.000E+00	5.139E+00	2.836E-02
Residuals	3.449E+03	4.400E+01		

	QUEALB.Sum.Sq	QUEALB.Df	QUEALB.F.value	QUEALB.Pr..F.
chilling		0.000E+00		
forcing	3.101E+02	1.000E+00	1.810E+00	2.154E-01
photoperiod	5.637E+01	1.000E+00	3.291E-01	5.820E-01
Residuals	1.370E+03	8.000E+00		

	QUERUB.Sum.Sq	QUERUB.Df	QUERUB.F.value	QUERUB.Pr..F.
chilling	9.358E+00	1.000E+00	2.390E-01	6.258E-01
forcing	6.977E+02	1.000E+00	1.782E+01	4.590E-05
photoperiod	3.701E+02	1.000E+00	9.451E+00	2.584E-03
Residuals	4.973E+03	1.270E+02		

	QUEVEL.Sum.Sq	QUEVEL.Df	QUEVEL.F.value	QUEVEL.Pr..F.
chilling		0.000E+00		
forcing	6.648E-01	1.000E+00	1.727E-02	8.971E-01
photoperiod	3.051E+00	1.000E+00	7.926E-02	7.819E-01
Residuals	6.159E+02	1.600E+01		

	RHAFRA.Sum.Sq	RHAFRA.Df	RHAFRA.F.value	RHAFRA.Pr..F.
chilling		0.000E+00		
forcing	4.265E+02	1.000E+00	6.159E+00	2.317E-02
photoperiod	1.139E+02	1.000E+00	1.645E+00	2.160E-01
Residuals	1.247E+03	1.800E+01		

	RHOPRI.Sum.Sq	RHOPRI.Df	RHOPRI.F.value	RHOPRI.Pr..F.
chilling		0.000E+00		
forcing	6.761E+02	1.000E+00	3.728E+00	6.856E-02
photoperiod	7.172E+02	1.000E+00	3.955E+00	6.133E-02
Residuals	3.446E+03	1.900E+01		

	SPIALB.Sum.Sq	SPIALB.Df	SPIALB.F.value	SPIALB.Pr..F.
chilling		0.000E+00		
forcing	5.414E+01	1.000E+00	1.223E+00	2.783E-01
photoperiod	2.387E+01	1.000E+00	5.390E-01	4.690E-01
Residuals	1.240E+03	2.800E+01		

	VACMYR.Sum.Sq	VACMYR.Df	VACMYR.F.value	VACMYR.Pr..F.
chilling		0.000E+00		
forcing	5.498E+02	1.000E+00	1.560E+01	2.936E-04
photoperiod	6.238E+01	1.000E+00	1.769E+00	1.906E-01
Residuals	1.481E+03	4.200E+01		