

Crop Formation: Lebanon, Oregon, USA 1995

Laboratory Code: KS-02-148

Material: Wheat, *Triticum aestivum* and cow pea, *Lupinus spp.*

Formation: Approx. one week prior to April 30, 1995

Sampled: by Carol Pederson et al, on May 13, 1995

Comment: First reported formation in the USA in 1995

SUMMARY OF RESEARCH FINDINGS:

a) Severely wilted *Lupinus* leaves examined in the redox system - no active anion responses were observed (severely reduced respiration).

b)- in Fig.1 attached are the inserted values of the apical node changes in the wheat, relative to the mean level in the control nodes.

c)- due to the early sampling date there were large variations in the control samples (see Report #50), only samples #11 and #12 have node expansion values significantly higher than the controls.

d)- plants in sample #11 also contained expulsion cavities at both the A and P positions.

e)- Frequency Distribution Analyses of node length data were conducted for both the A-apical and P-penultimate locations.

f)- Fig's. 2A and 2B show the distributions for the A nodes, with the formation clearly exhibiting a greater spread and significant node expansion at +22%.

g)- Fig's 3A and 3B are analyses for the P nodes and the differences in the size distributions are even more apparent. The formation nodes are expanded +29%, again statistically significant.

h)- note Coefficient of Variance levels in the statistical tables below the bar charts (compare control values with those from the formation plants).

CONCLUSIONS

The significant node length increases, the presence of expulsion cavities, and the overall differences in the Coefficient of Variance values, strongly suggest the presence of energetic ion plasma vortices.

W.C. Levensgood
Pinelandia Biophysical Lab.

John A. Burke
Am-Tech. Laboratory

Lebanon, Oregon
 Formation
 Sampling Done MAY 1, 1995
 wheat / pear / sparse

Fig.1 Sampling diagram with added node length data- as a percent change relative to the mean of all the controls
 A-apical node data only (KS-02-148)

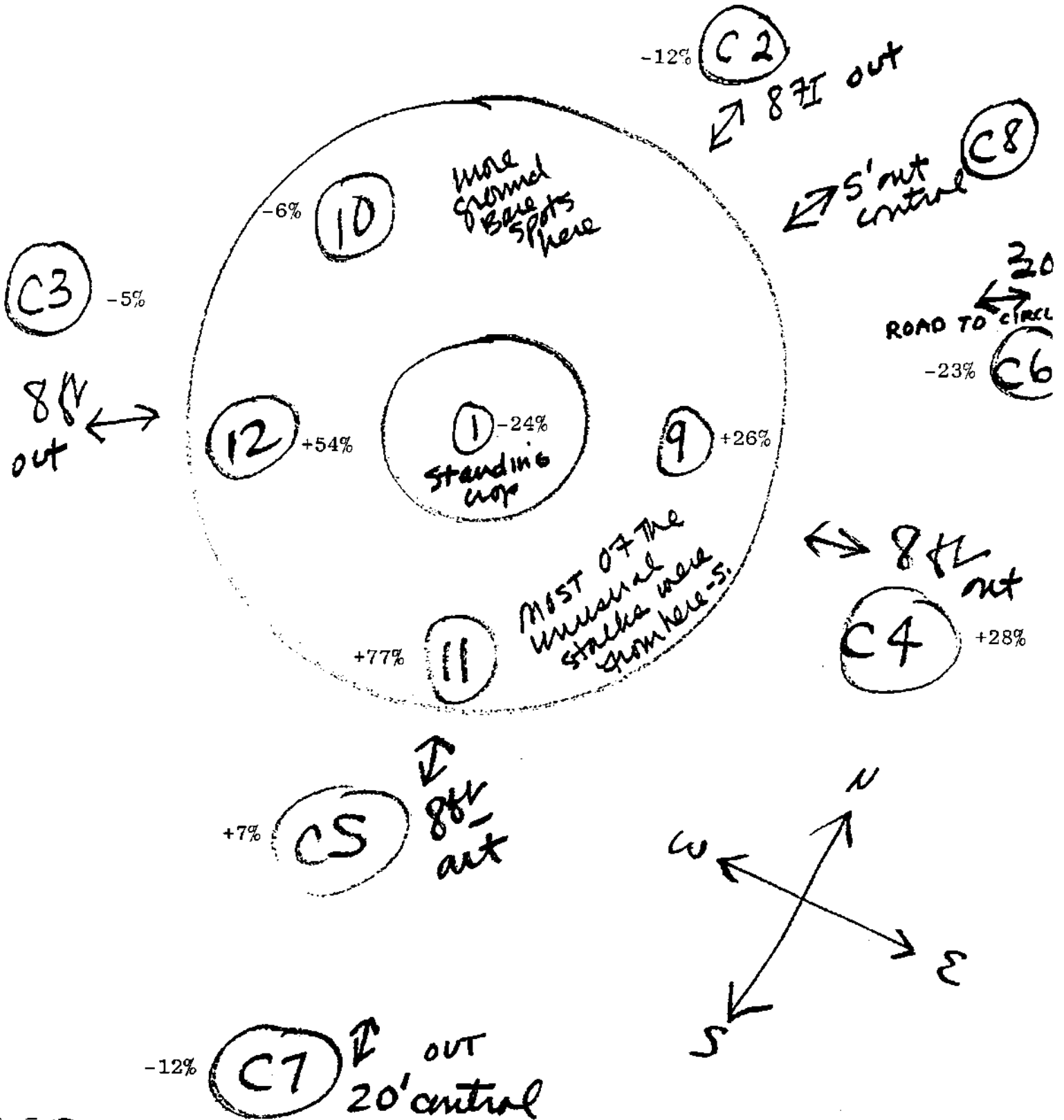
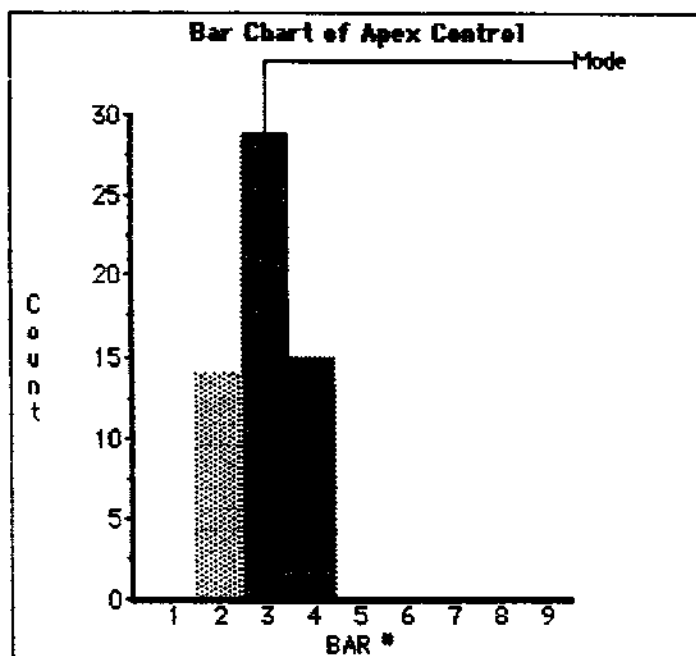


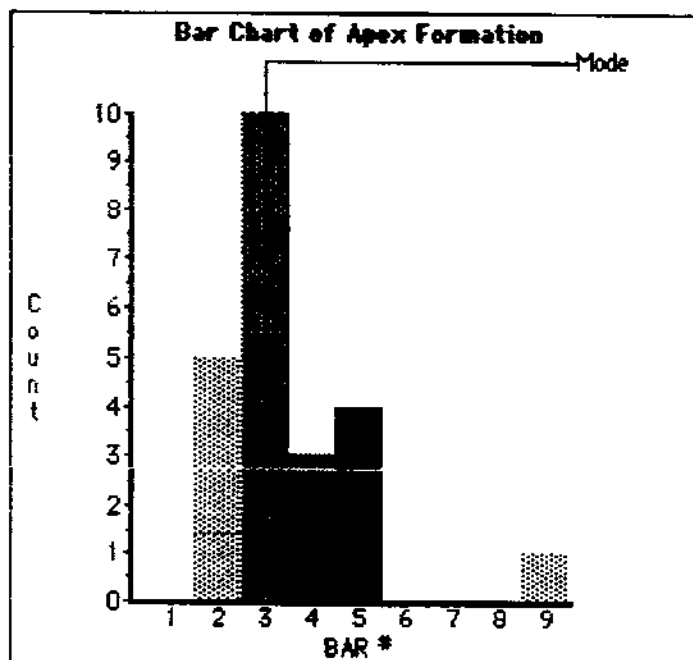
Fig.2A Frequency distribution analysis of A-apical node lengths in all control plants (KS-02-148)



Bar# = 1mm node length interval

Apex Control					
Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.419	.681	.089	.464	28.16	58
Minimum:	Maximum:	Range:	Sum:	Sum Squared:	* Missing:
1.3	3.7	2.4	140.3	365.83	0

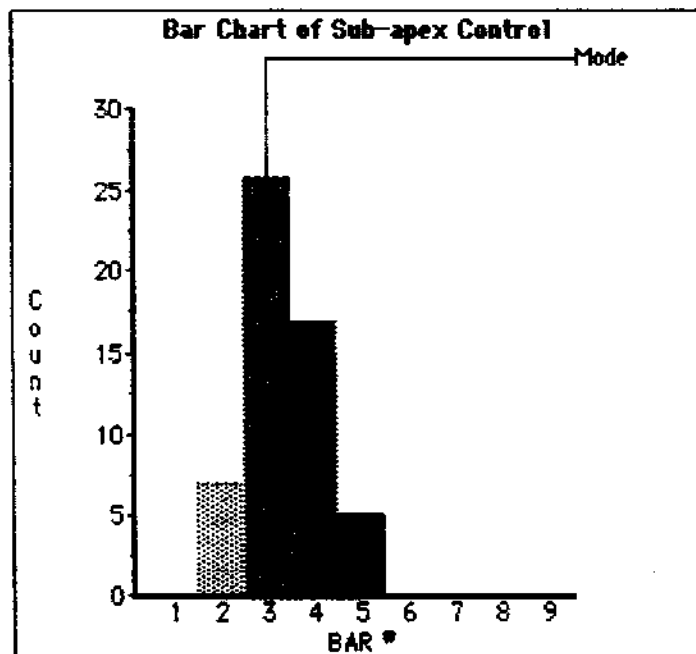
Fig.2B Frequency distribution analysis of A-apical node lengths in all formation plants (KS-02-148)



Node Expansion = +22% (P<0.05)

Apex Formation					
Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.943	1.474	.307	2.172	50.065	23
Minimum:	Maximum:	Range:	Sum:	Sum Squared:	* Missing:
1.5	8	6.5	67.7	247.05	35

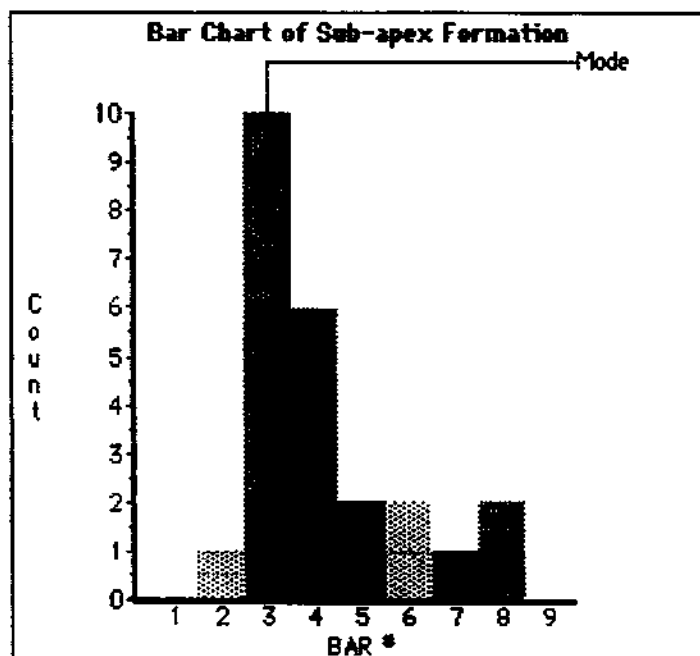
Fig.3A Frequency distribution analysis of P-penultimate node lengths in all control plants (KS-02-148)



Bar# = Imm node length intervals

Sub-apex Control					
Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
2.811	.741	.1	.55	26.372	55
Minimum:	Maximum:	Range:	Sum:	Sum Squared:	* Missing:
1.3	4.3	3	154.6	464.24	3

Fig.3B Frequency distribution analysis of P-penultimate node lengths in all formation plants (KS-02-148)



Node Expansion = +29% P<0.05)

Sub-apex Formation					
Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
3.625	1.635	.334	2.674	45.111	24
Minimum:	Maximum:	Range:	Sum:	Sum Squared:	* Missing:
1.6	7.3	5.7	87	376.88	34