Research Report from Pinelandia Biophysical Laboratory
Grass Lake, Michigan 49240

September 30, 2002

Crop Formation: Forest Grove, Oregon, 2002
Laboratory Code No. KS-05-116

Location: Forest Grove, Oregon
Material: Wheat (*Triticum aestivum*) stems with seed heads; soil at each sampling site.
Discovered: July 5, 2002
Sampled by: Ms. Carol Pedersen on July 12 & 13, 2002
Formation Characteristics: See Ms. Pedersen's diagram attached to this report (designated as Fig.1) – size approx 114 ft. E-W & 90 ft. N-S.

Summary of Findings:

1) – Node Lengths and Expulsion Cavity Analyses:

A total of 44 sets of formation samples and 16 sets of controls (each set containing from 10 –15 plants) were examined for node lengths. Out of the 44 formation sets, 36 disclosed node expansions greater than the average from the control sets. Based on pure chance one would expect somewhere around 22 sets to average out above the control average. Through the application of chi-squared analysis we find that there is a greater than 99% probability that the overall node expansion levels in the crop formation are not due to pure chance.

Because of the excellent manner in which this formation was sampled, it was also possible to analyze node expansion levels within various components of the formation. The results of this "analysis by parts" are summarized in Table I- also included are data on the frequency of expulsion cavities within each particular component.

Table I

Summary of node length measurements and frequency of expulsion cavities.

	--- Node Length mm ------			Expulsion Cavities
Sampling Site	ave.	s.d.	N-sample sets	(% of total plants)
Controls	3.70	0.31	16	0%
Center Circle	4.16	0.35	10	2.2%
West Circle	3.79	0.36	10	0%
East Circle	4.10	0.38	10	1.7%
"Key-Bars"	4.43	0.25	6	7.2%
RDA (random down)	4.09	0.47	3	3.9%
Semi Cir. **Standing**	4.34	0.40	2	7.4%

Results of a standard t-test analysis of specific components within the formation show that four of the six formation sites listed in Table I, have node lengths significantly expanded (above the 95% confidence level) relative to the controls. These high node expansion areas include the center circle, the east circle, the Key-Bar sites and the semi-circle of standing plants. Even though there were only two sample sets taken from the semi-circle of standing plants the overall expansion level was over two standard deviations (s.d.) higher than the controls. The plants from this semi-circle sampling also had the highest level of expulsion cavities. This is not the first formation in which significantly expanded stem nodes have appeared in upright plants within the formation; however, as far as this author is aware it is the first example of a relatively high level of expulsion cavities in upright plants within a crop formation.

The data plotted in Fig.2 attached, show the relationship between the node expansion levels at each of the sampling sites and the frequency of expulsion cavities. With a correlation coefficient of $r = 0.91$ it is quite apparent that both types of anomalous alterations in the cell structure of the plant nodes, are related to the causative energy, namely the applied microwave energy.

2) – Magnetic Particle Analyses:

Magnetic drag procedures were applied to soil taken from 12 control sites and 27 formation sites. Out of the 27 formation sets, 20 disclosed magnetic particle deposits higher than the average of the controls. Again, by applying chi-squared analysis we find there is a greater than 99% probability that the levels of magnetic particles in the crop formation are not due to pure chance.

Since all of the soil samples were taken at locations corresponding to plant sampling sites, the same sort of "analysis by parts" was applied to the magnetic drag data as summarized in Table II.

Table II.

Summary of magnetic particle analysis.

Sampling Location	ave.	s.d.	N-sets
Controls	37.8	6.6	12
Center Circle	45.6	9.6	5
West Circle	43.7	4.8	5
East Circle	35.2	5.0	4
Key-Bars	48.8	14.4	6
RDA (random downed)	48.4	7.9	2
Semi Circle (**standing**)	46.8	4.6	2

It is interesting to note that with the exception of the east circle all sites have higher magnetic particle deposits than the controls. Due to high variability within the various

soil sets, only the Key-Bar data were found (using the standard t-test analysis) to be significant at the 95% confidence level.

It is important to note that these high levels of magnetic particles within the formation, is a clear indication of a low rotational or vortex energy within the plasma system. In the majority of crop formations the levels of magnetic particles are lower within the formation than in the immediate surrounding region. In formations where the geometry is simple, as in large, uncomplicated circles, the deposits of magnetic particles increase linearly with distance from the formation. By considering the physics of a centripetal force on particles held in a rotating plasma system, these linear patterns can be readily explained.

Within the more complicated systems, as in the Forest Grove formation, one can expect more complex patterns of deposit. For example, in Table II the controls, sampled up to 50 ft. from the formation, have over 90 times the upper limit (0.4 mg/g-soil) found in normal soil. This shows that a portion of the magnetic particles have been thrown out of the formation by centripetal force. In certain formations with a high degree of vortex action it has been found necessary to sample at a distance of over ½ mi. from the site before the concentration of magnetic particles returns to the level found in normal soil.

3.) Seed Germination Studies:

A total of 12 sample sets, including 2 control sets, were examined for seed germination and vigor. With one exception, there were no significant differences in the seedling growth from material taken at the various sampling sites listed in Table I. The seedling growth in sample "S2" taken in the long Key-Bar was significantly suppressed compared with the controls. It should be noted that this sample set had one of the highest node expansions (4.6 mm ave.) as well as two expulsion cavities in a 13-plant set, giving a frequency of around 15%.

4.) Comments Related to the Key-Bar Data:

As Ms. Pedersen mentioned in her July 15, 2002 report, the Key-Bar region or "F" shape downed area (see Fig.1) very closely resembles similar forms appearing in England in 1990 crop formations. Around 1994 a close associate, Mr. John Burke pointed out the strong resemblance between these F-shaped downed areas and the constructed shape of metal tubes with rectangular cross section known as "wave guides". These wave guides are used to efficiently direct microwaves or ultra-high frequency energy. The question is, do these F-shape regions in the crop formation have anything to do with directing or concentrating microwave energy? If so, one would expect to find evidence of higher energy impact in the Key-Bar regions.

As shown in Tables I and II the Key-Bar regions have the greatest degree of node expansion, the highest level of magnetic particles and next to highest frequency of expulsion cavities. All of these anomalous changes are in accord with a high level of

microwave energy. In these Key-Bar regions one would expect that if the energy is directed by the plants acting as a wave guide the resulting lay pattern in the crop would be linear, rather than the circular lay patterns indicative of vortex action. This linear transport of energy is indicated in Fig.1 by the lay pattern arrows along the Key-Bar paths. A linear lay pattern was further confirmed in photographs taken by Ms. Pedersen at various locations within the formation. In those photo's showing the Key-Bar regions, the linear translation of applied energy is clearly observed. This energy pattern did not simply end abruptly at the ends of the Key-Bar paths, but as indicated in Fig.1 and in the photographs are "brushed into the standing crop" leaving a notched pattern at the ends.

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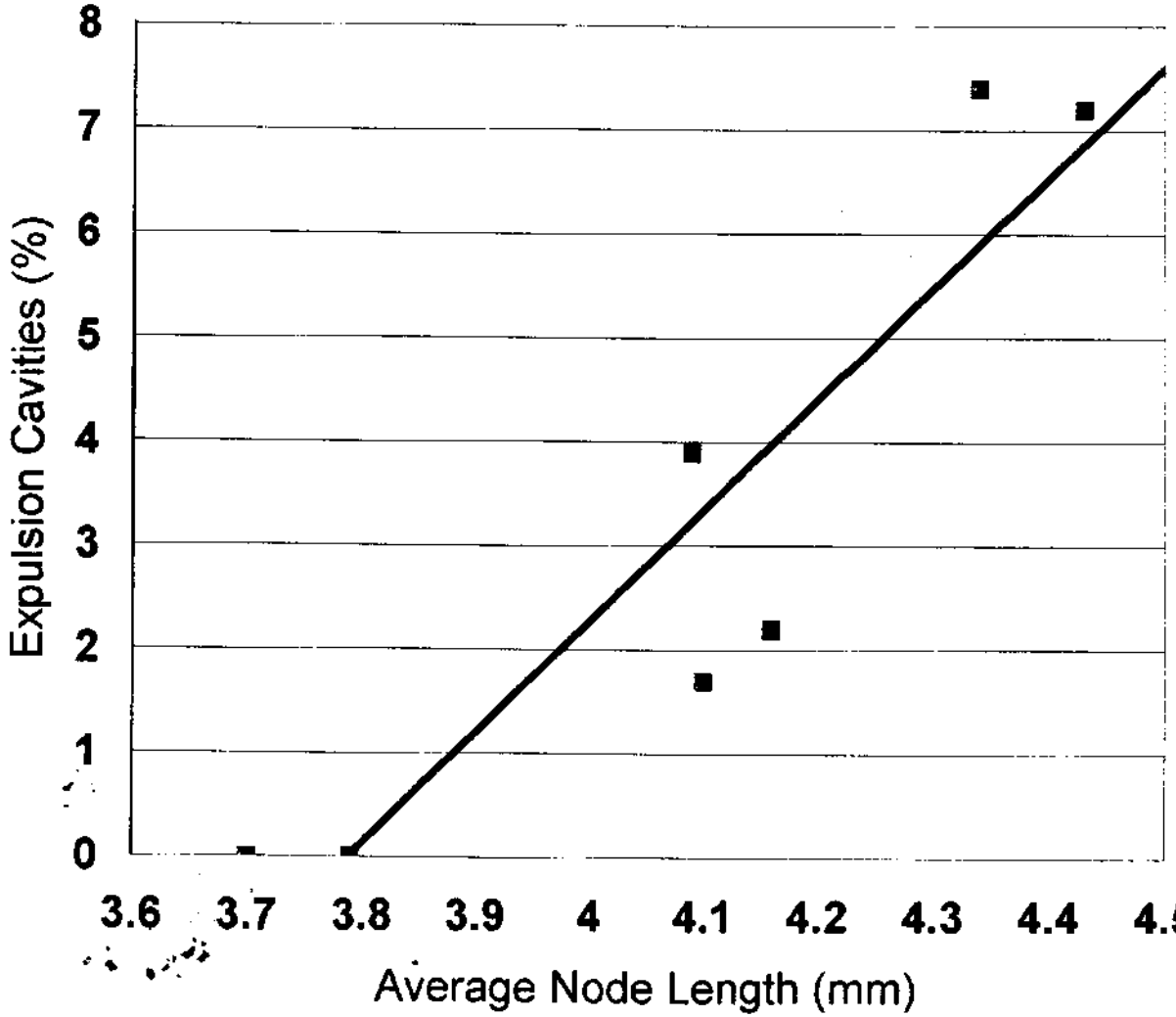
Fig.2 Relationship between mean node lengths and frequency of expulsion cavities at specific sites in the Forest Grove crop formation (Pinelandia Biophysical Lab. 9-29-02; lab. code KS-05-116)



R-square = 0.835 # pts = 7

y = -40.4 + 10.7x

FOREST GROVE CIRCLE
OREGON
JULY 8, 2002
CLOCKWISE - WEST CIRCLE
COUNTER CLOCKWISE - CENTER +
EAST CIRCLE +
HALF CIRCLE

Fig. 1