Crop Formation: Crawley Down, UK, 1994

Laboratory Code: KS-02-80

Material: Wheat plants (2.5 ft.) with seed heads.

Formation: At Crawley Down, UK, on July 27, 1994 ("very new"). Interconnected ring complex with small satellite.

Sampled: on Aug. 5, 1994 by Mrs. shelly Keel, 10 Alliston Way, Witchurch, Hants, England R92 87LF. See attached diagram and aerial photo prepared by Ms. Keel.

Laboratory Results:

Sampling and drying of the downed plants was obviously done with great care and precision, with a total of 18 sets from the formation and 10 sets of control plants. Controls were taken at 20', 50' and 150' on both the North and South side of the formation. Each sample set contained 6-10 plants with intact seed heads.

Detailed studies of node expansion and seed germination were conducted in accord with our usual laboratory procedures. Analyses of the node expansion data disclosed that there was no correlation between the degree of expansion and the location within the formation (the data did not fit Beer's law). It was clearly established, however, that all the downed formation plants had significantly expanded nodes compared with the controls. These data are summarized in the following table.

	Node Length mm			
Location of Downed Plants	ave.	sd	Total N	Expansion
Epicenter (large formation)	5.47	0.50	6	+47%*
Large Formation	4.32	0.35	89	+16%*
Satellite (small)	4.46	0.13	19	+20%*
Controls	3.72	0.39	68	-------

*-$P<0.05$

Germination studies disclosed that the formation apparently occurred at the point in development were these was little or no influence on the seedling growth. This point cannot be precisely defined because of variations in the formation energy levels.

Conclusions:

In all of those sample sets in which the physics of energy absorption has followed the Beer's law model, the plants have been taken from a segment of a formation in which the plants have been uniformly downed in a circular, swirled pattern. In other words the energy appears to have been uniformly absorbed in radial direction.

The "ring" geometry of the above formation would suggest that the energy distribution follows more of a linear path and one would not expect to find the precise Beer's law model. This prediction was clearly confirmed when performing a detailed analysis of the node expansion data. In general, what we observe here is the situation where the data are beginning to fit a crude predictive model. A beginning!!!!

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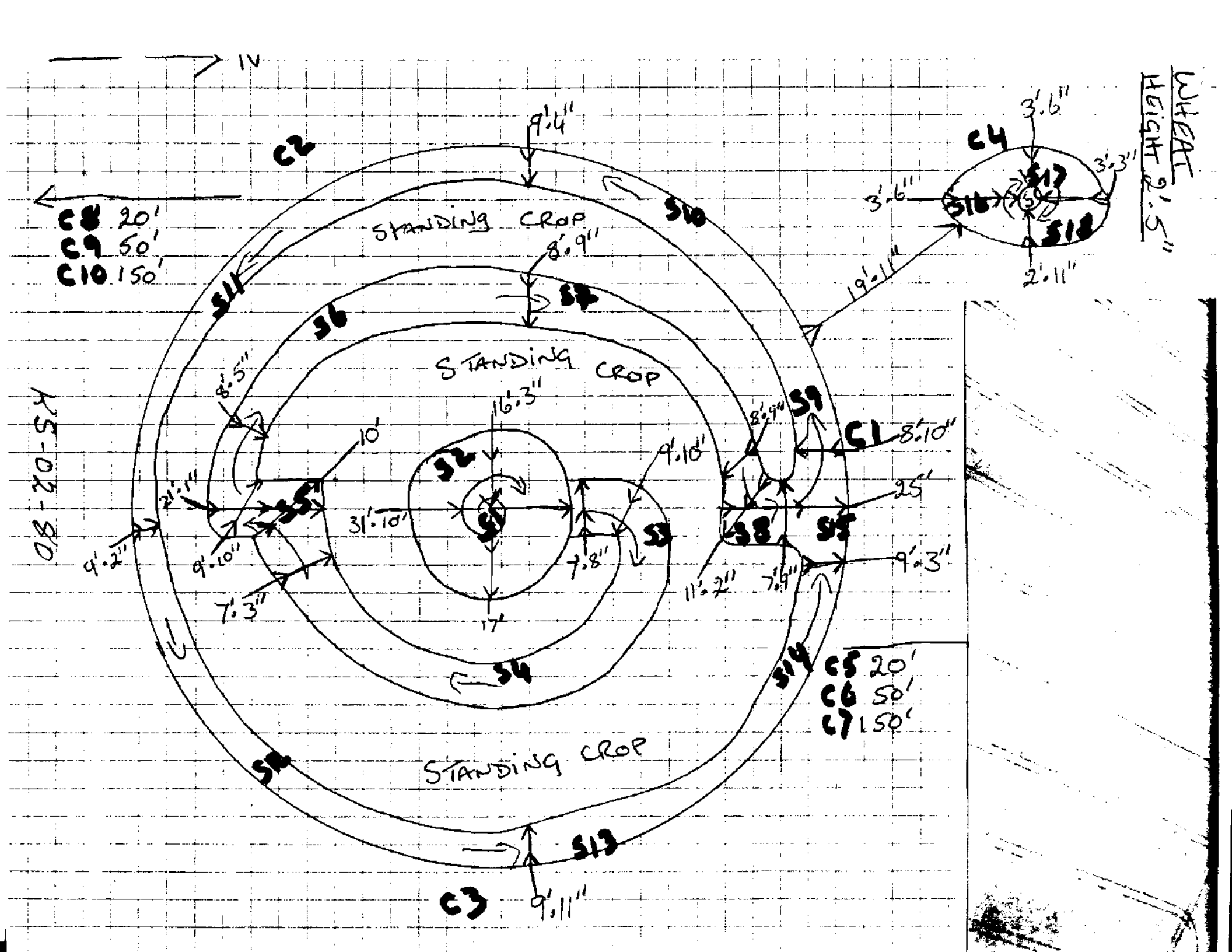
N
WHEAT HEIGHT 2'.5"
08-20-54
STANDING CROP
STANDING CROP
STANDING CROP
C1 8'.10"
C2
C3 9'.11"
C4
C5 20'
C6 50'
C7 150'
C8 20'
C9 50'
C10 150'
9'.4"
8'.9"
16'.3"
10'
9'.10"
25'
9'.3"
17'
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18