

Crop Formation: Midale, Saskatchewan, Canada - September, 1999

Laboratory Code: KS-04-161

Event Location: Martinson Farm, Midale, Saskatchewan

Date Occurred: Circles #1-4: September 4-5; Circles #5-6: September 18-19

Date Discovered: Circles #1-4: September 6; Circles #5-6: September 20

Date Sampled: Circles #1-6: September 24, 1999

Materials Sampled: Wheat (*Triticum aestivum*) and soils

Sampled By: John Erickson, Sherri Tessier, Bob Leslie

Formation Characteristics: Circles #1-4 (occurred on 9/4-5) included a 68'-diameter ringed circle which was partially intersected by a nearby ditch and road, two 32'-diameter simple circles, and a fourth 34'-diameter ringed circle with internal curving pathways; of these, the 68'-diameter circle was sampled. Circles #5 & #6 (which occurred on 9/18-19) were two simple circles, 10'-diameter and 14'6"-diameter, and both of these were sampled. For additional details see Figs. 1 & 2.

Relevant Findings:

- (1) A clear linear relationship ($R^2 = 0.997$) was found between the amount of magnetic material deposited in the soils and the sampling distances from the circle's epicenter, in all 4 radii of the 68'-diameter ringed circle (Circle #1);
- (2) This direct relationship was shown to agree with the physics of centrifugal forces on particles confined in a rotating plasma system;
- (3) A chi-squared analysis conducted on the wheat stem node-lengths in plant samples from the downed-crop center circle and in the standing ring (Circle #1) showed statistically significant node expansions when compared to the controls.

Results and Discussion:

A total of 39 sample and 12 control sets (533 plants) were examined for node-length variation. (Two sample sets were not found among the submitted samples; seven of the control sets, which were within 10' of flattened areas, were not utilized in this analysis due to their proximity to multiple flattened areas and the likelihood of a spillover effect.)

Compared with other cases examined in this laboratory (and specifically with the 1999 event on the nearby Johner Farm, Lab Report #112), node expansions here were less dramatic and had no uniform distributions. However, the chi-squared analysis (a statistical evaluation used to determine whether differences in one variable are greater than what could be expected by chance) did reveal

that, overall, statistically-significant node expansions had occurred in the sample sets taken from Circle #1, in the 54'-diameter flattened center circle *and in the sample sets from the 8'-wide surrounding standing ring* (see Fig. 3). The 6'-wide outer flattened ring plant samples (Circle #1) did not reveal statistically-significant node-length increases, nor did the plant samples submitted from Circles #5 and #6. In the case of Circle #5, had there been more plant samples to evaluate it is possible that a clearly significant result would have been obtained.

Soil samples (taken at the same sampling locations as the plant samples) disclosed levels of magnetic material ranging from 2mg/g-soil to over 3.5 mg./g-soil, levels which are only slightly higher than the expected maximum normal levels of 0.4 mg/g-soil. Microscopic examination revealed the usual large (approximately 50 microns in diameter) spheres and irregularly-shaped particles of presumptive magnetite (as observed in many other crop formations); many fine magnetic particles were also seen, mixed in with chunks of soil.

In Fig. 4 the mean values of magnetic material found in the soils along the four radii in the 54'-diameter downed center circle of Circle #1 are plotted as a function of sampling distance from the epicenter. The very strong linear relationship found here is understandable by considering the forces on a particle suspended in a rotating vortex system (previously studied crop formations have disclosed this same linear relationship between the level of magnetic material in the soils and sampling distance from a specific point in the formation). In previous cases¹ we found it fruitful to explore the physics of the forces acting on the magnetic particles within rotating plasma systems: for a particle within such a rotating system, and moving in a circular path of radius r and at a velocity v , its acceleration is given by,

$$a = v^2/r \quad (1)$$

and the outward-directed or centrifugal force F on a particle of mass m is computed as,

$$F = mv^2/r \quad (2)$$

the relationship between the linear velocity v and the angular velocity ω (in revolutions per second) is described by,

$$v = 2\pi r\omega \quad (3)$$

and by substituting in eq.2 we obtain,

$$F = (4\pi^2\omega^2m)r \quad (4)$$

For a given vortex system, ω is constant; therefore eq.4 predicts a direct relationship between the centrifugal force exerted on a magnetic particle of mass m and its distance r from the center of the vortex system, thus explaining the linear relationship shown in Fig. 4.

The distribution of magnetic material in the 8'-wide standing ring and 6'-wide outer downed ring (Circle #1), as well as in the westerly control samples taken outside Circle #1, was highly erratic (see Fig. 5). It must be remembered that the plasma vortices thought to be the causative agency behind crop formations contain multiple energies interacting in a complex, thermodynamically unstable system. The finding of a strong linear distribution of magnetic particles along all four radii of the central downed circle (Circle #1) clearly proves the presence of such a rotational system with associated magnetic fields; the fact that the magnetic particle distribution outside this central circle was much more erratic points to the chaotic interaction of the overall multi-energy, multi-vortex system.

¹ Levensgood, W.C. and Talbott, N.P. (1999) *Dispersion of Energies in Worldwide Crop Formations*, *Physiologia Plantarum* 105:615-624.

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Addendum: A representative of the Saskatchewan Radiation Safety Unit, Mr. Trevor Langen, visited the site on September 29, 1999; he reported battery drainage of his geiger-counter inside Circle #1 (written report not received by this office) after a short period of time in the field. He further reported that the three circles he measured were all elliptical, rather than truly circular. It is common to hear of battery failure in crop circles world-wide; it is also a fact that the majority of crop circles reported are elliptical, rather than truly circular. BLT fieldworker John Erickson also reported that local residents stated that their house-lights flickered during the time period when Circles #1-4 are known to have occurred; this sort of electrical interference is regularly reported by residents living near fields in which crop circles are subsequently found to have formed.

Fig. 1: Field-sampling diagram showing sampling details of Circle #1.

LOCATION: Martinson Farm
Midale, Sask., CANADA

DATE OCCURRED: 9/4-9/5/99 FOUND: 9/6/99

DATE SAMPLED: Sept. 24, 1999

MATERIALS SAMPLED: plants/soils CROP: wheat

SAMPLED BY: Erickson, Tessier, Leslie

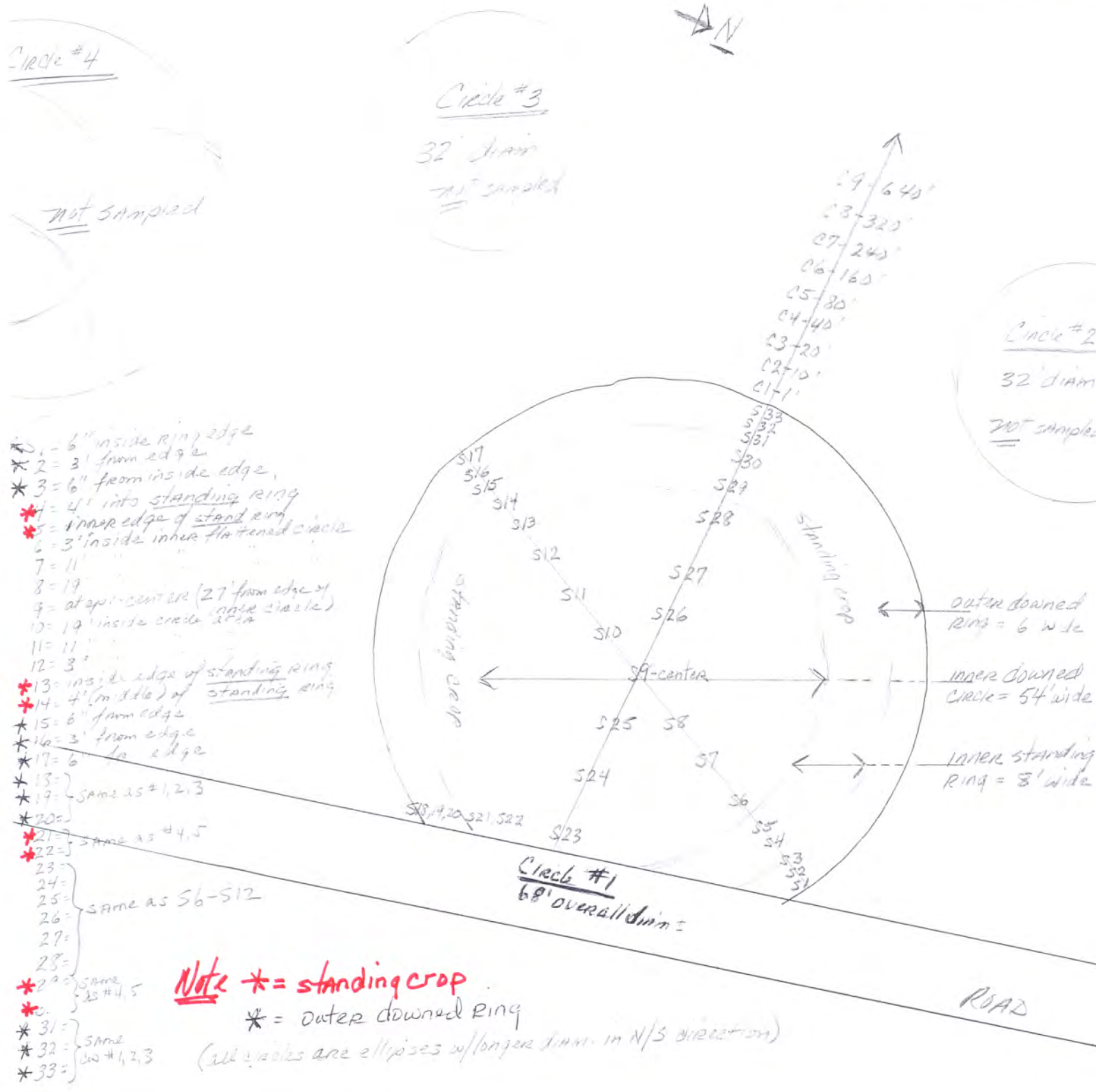


Fig. 2: Field sampling diagram for 2nd set of circles to appear, showing details of sampling for Circles #5 & #6.

Martinson Farm (2nd set)
 LOCATION: Midale, Sask., CANADA

DATE OCCURRED: 9/18-9/19 FOUND: 9/20/99

DATE SAMPLED: Sept. 24, 1999

MATERIALS SAMPLED: plants/soils CROP: wheat

SAMPLED BY: Erickson, Tessier, Leslie

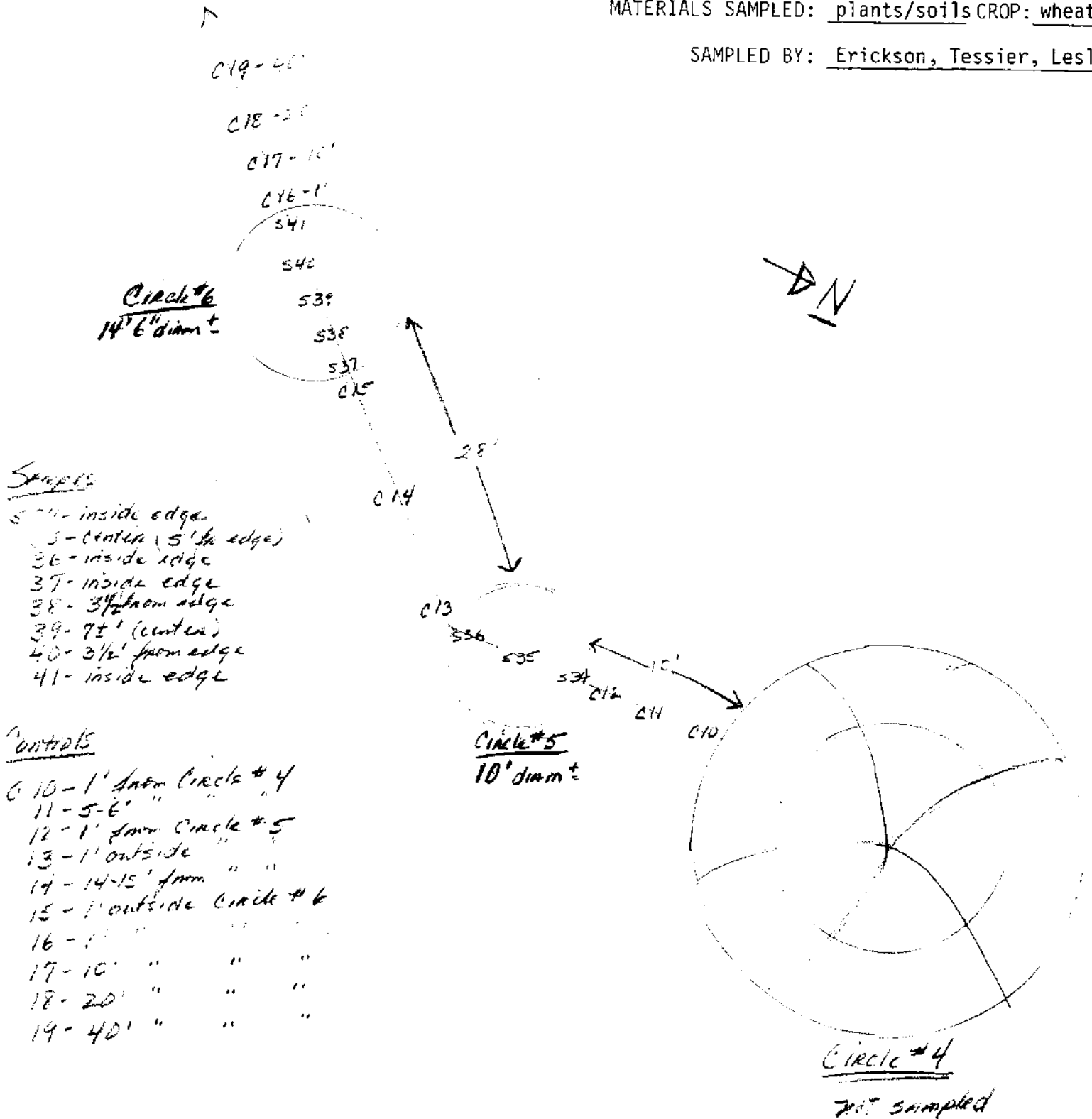
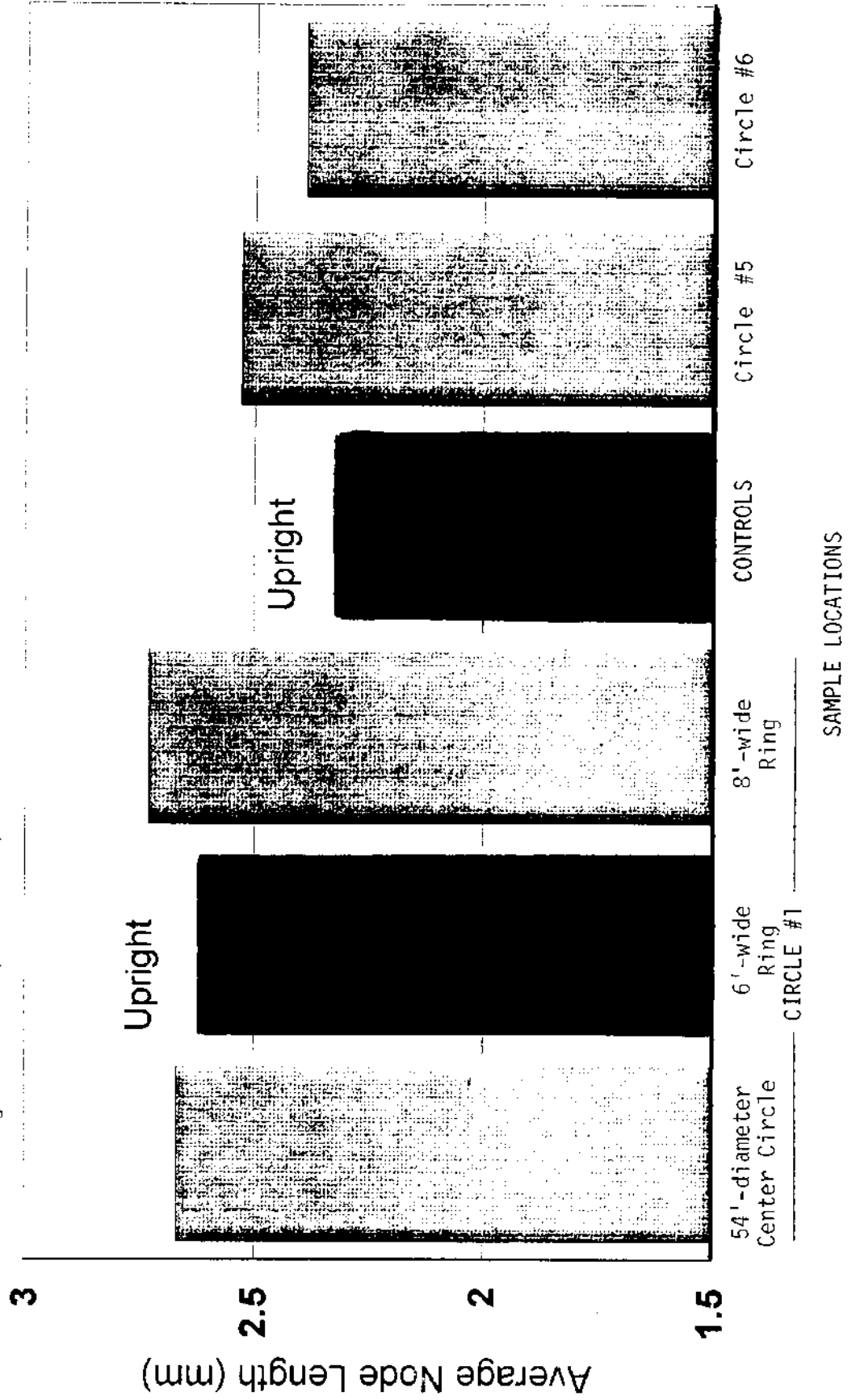
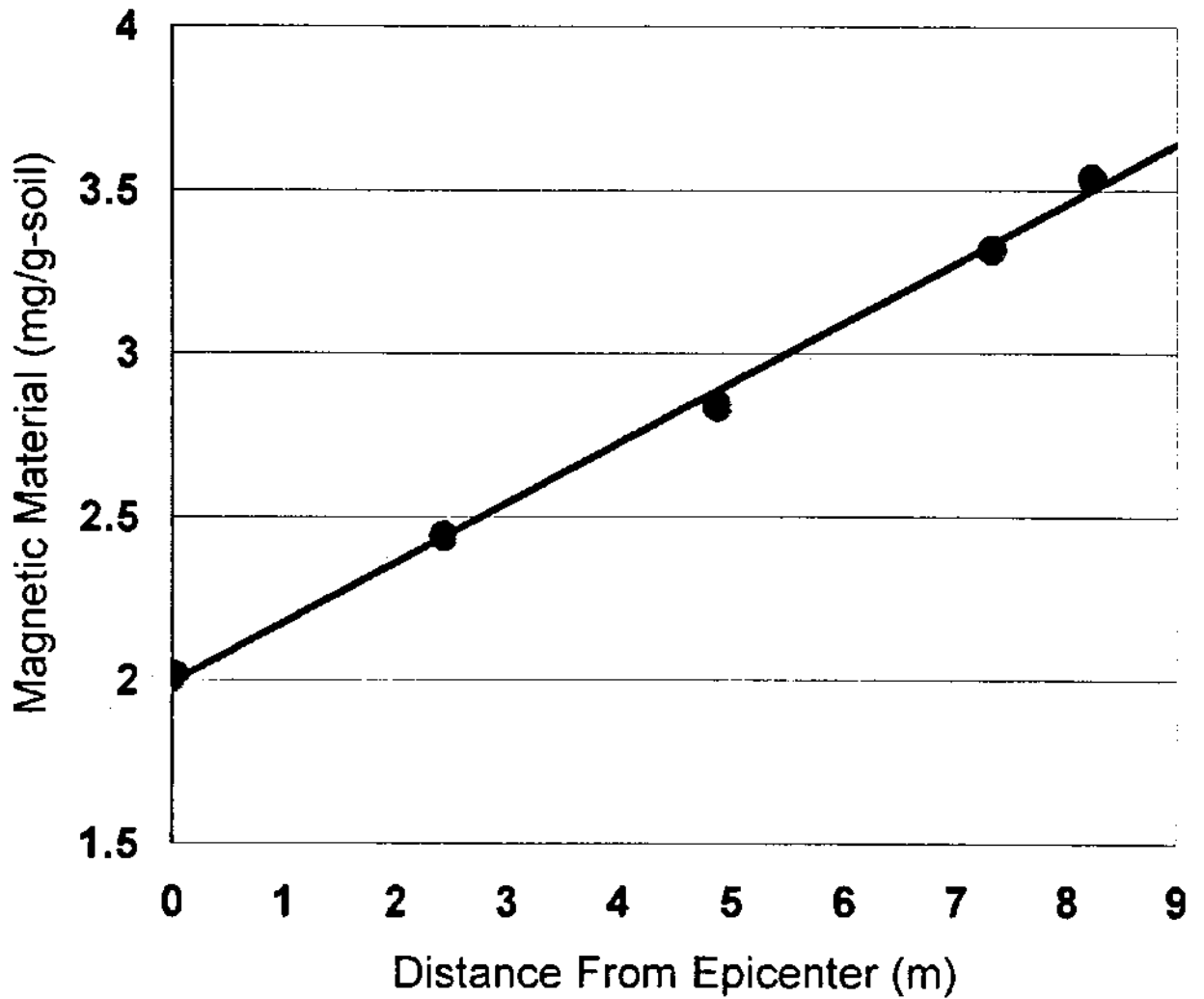


Fig. 3: Mean Node Lengths in Sampled Circles and Controls: Circle #1 (center downed-crop circle, 6'-wide standing ring and 8'-wide downed-crop ring), Circle #5 and Circle #6. Node-length increases in the center circle & 8'-wide ring (both downed crop) were statistically significant, as were the node-length increases in the 6'-wide ring of standing crop. Node-length increases in Circles #5 & #6 were not significant. (KS-04-161)



SAMPLE LOCATIONS

Fig. 4: Distribution of Magnetic Material in the Soils Along Four Radii in the 54'-Diameter Center Circle of Circle #1 (KS-04-161). Data points begin at epicenter, then are spaced at 8'-intervals to inner edge of standing ring. The direct linear relationship presented here demonstrates the physics of centrifugal forces on particles confined in a rotating plasma system.



R-square = 0.997 # pts = 5
 $y = 1.99 + 0.183x$

Fig. 5: Distribution of Magnetic Material in the Control Soils Outside Circle #1 (West Control Samples), Showing Erratic Pattern of Distribution (KS-04-161).

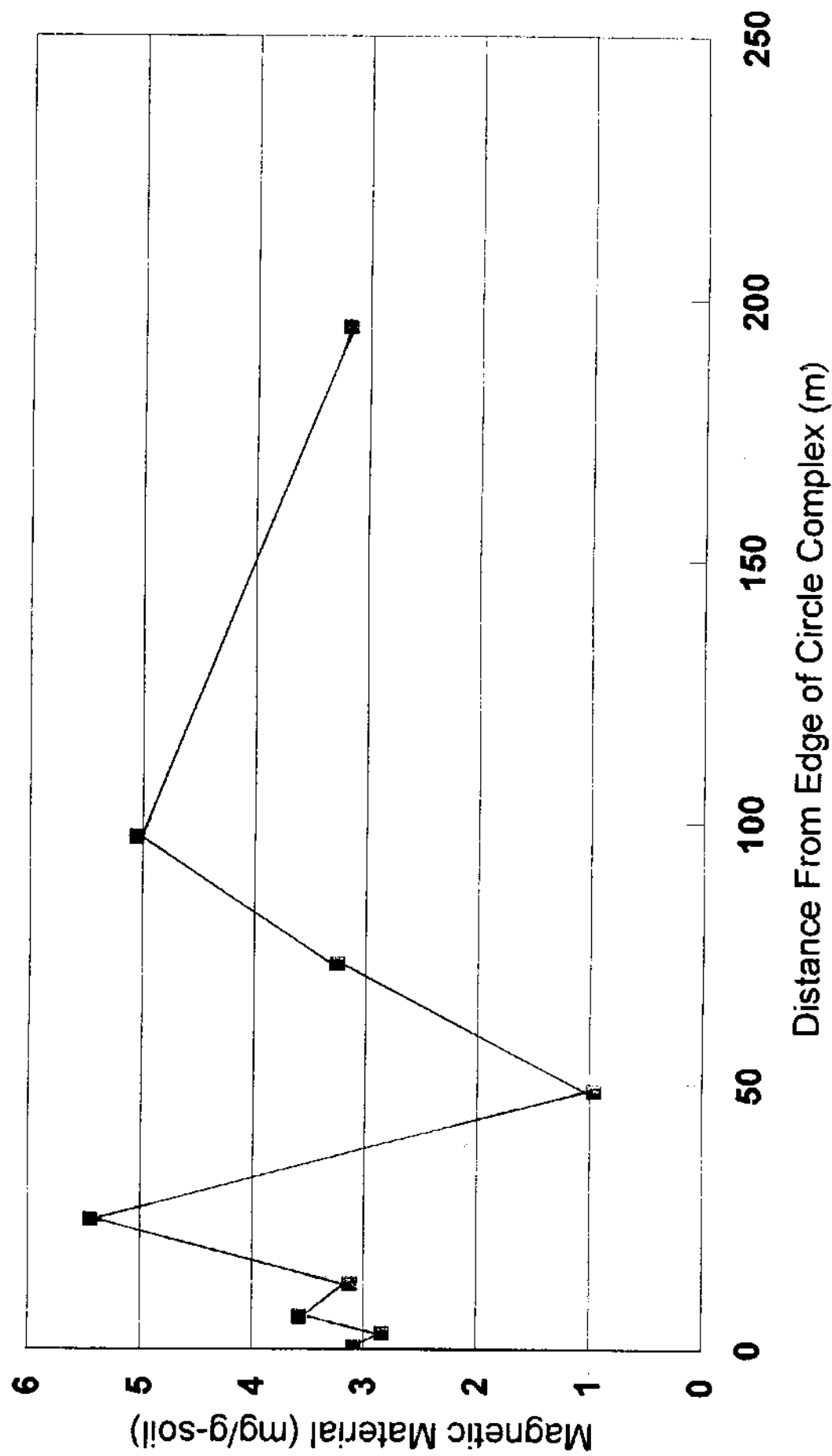


Fig. 6: Layering of downed wheat inside the double-ringed "Medicine Wheel," one of the Sept. 4-5 set of four circles (top photo). Spiral lay of downed crop inside one of the simple circles. Photos: Bob Leslie and Sherri Tessier. (KS-04-161)

Layering of wheat in medicine wheel.

