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Sept. 21, 1992

SAMPLE REPORT: PINELANDIA BIOPHYSICAL LABORATORY

LABORATORY CODE: KS-01-62

PLANT MATERIAL: *Hordeum vulgare* (barley)- samples of "spikes" or seed heads.

FORMATION: at Barbury Castle, U.K. "odd shaped, fourth circle closest to the emergency way"- formation date not known, taken 7-11-92.

COLLECTED BY: friend and colleague (name withheld by request).

COMMENTS ON SAMPLES: the seed heads were received in excellent shape and had been well dried before packaging - all seeds (where present) were still on the heads.

LABORATORY STUDIES:

I.) External Appearance of Seed Heads - there was a striking difference between the seed heads from the circle and the controls. The controls had normal appearing, well developed seeds whereas the heads from the circle plants were essentially devoid of seeds. Out of 14 heads from the formation, three were observed to have 2-3 seeds each at the very apex of the spike. These apically formed seeds did not, however, have the normally formed "beards" at the seed tips. These differences are shown in the upper photograph (attached).

An examination of the seed attachment points on the spike, indicated that the embryos in the circle plants never developed into seeds. On the controls the removal of a seed produced a rough "scar" at the attachment point - these rough regions were not found on the circle samples. A head from one circle plant had a seed at about the mid-point along the spike, and although it was of normal length no endosperm had formed inside the testa.

II.) Bract Development - heads were selected at random from each sample group and the bracts were intentionally bent outward for detailed examination. Measurements (summarized below) disclosed that the bracts were significantly reduced in length compared with the controls.