

# Crop Circles Working Protocol vers. 3.0

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## Actions in the field and at home:

### In the field:

1. Find magnetic north with a compass (outside the formation).
2. Check the Geiger counter and Frequency meter (outside the formation) and write down the values.
3. Measure the pH, humidity and temperature of the ground (outside the formation).
4. Carefully examine the formation (especially if there is no good vantage point) and try to understand what sort of pattern or shape is depicted (draw it on piece of paper).
5. Find the "centre" (or "centres") and look for a possible swirl or tuft (in the centre).
6. Check the bending of plant stems (at ground level and at plant nodes) in at least 3 different areas of the formation).
7. Check compass and Gauss meter readings and write down the values (inside the formation).
8. Check Geiger counter and Frequency meter readings and write down the values (inside the formation).
9. Measure the ground pH, humidity and temperature (inside the formation).
10. Take soil samples from the centre, halfway point and edge of the formation, and from outside, well away from the circle.
11. Take seed and ear samples from the centre of the formation, and from outside, well away from the circle.
12. Take plant samples, including the ear, stem and root of the plant, from 3 different areas, inside the formation (3 different points) and outside, well away from the circle.
13. Take pictures of the centre(s) and of the taken ears, with close-ups of the nodes or significant details (e.g. dead or alive insects, powder and/or microcrystals on stems or leaves, stones in the formation, etc.)
14. Attempt to photograph the entire formation from an elevated position or with pole shots.
15. Film the entire formation in complete silence to record possible background "noises")
16. Measure the formation (check whether the "centre" is the geometric centre of the circle)
17. Ascertain the direction in which the ears of bent stems are pointing (c-w or a-c-w).

### At home:

1. Measure the length of stem nodes (taken from inside the formation and compare with those taken from outside).
2. Send samples to competent analysis laboratories.

### Analysis of plants and soil:

1. **Seeds:** reduction in volume (or dehydration).
2. **Nodes:** elongation, expansion or expulsion cavities, bending, gravitropism.
3. **Stems:** streaking, discolouring, silica (SiO<sub>2</sub>) found on stem (size: 5 micron)
4. **Soil:** traces of melted magnetite in soil grain (visible using microscope at 100x). Look for isotopes of Ytterbium (Yb), Palladium (Pd), Rhodium 102 (Rh), Tellurium 119m (Te) and Lead 203(Pb) using X-ray diffraction analysis [XRD].

### Tools:

1. 2 tube-shaped cardboard boxes (min. 1 m in length) for putting **complete unbent plant stems** (from root to ear, distinguish between inside and outside formation)
2. Metal (gardening) shovel to take soil samples
3. Minimum 4 **sterile** plastic containers for soil samples
4. Minimum 4 **sterile** plastic containers, 2 for seed samples and 2 for ears (from both inside and outside the formation)
5. Sticky labels to mark samples
6. Long tape measure (possibly surveyor's tape) to measure the formation and special features
7. Notebook to write down measurements, pen and marker (to write on plastic and glass)
8. Camera and possibly video camera (digital is better; for night photos use infrared film)
9. pH meter like that used for gardening (= to measure ground acidity/alkalinity)
10. Hygrometer like that used for gardening (= to measure ground humidity)
11. Thermometer like that used for gardening (= to measure ground temperature)
12. Compass (= to measure variation in earth's magnetic field)
13. Gauss meter (= to measure intensity of earth's magnetic field)
14. Frequency meter (= to measure electromagnetic wave frequency)
15. Geiger-Müller counter (= to measure radiation in the 3 bands alpha, beta, gamma)
16. Tall or telescopic pole to take pictures from above with camera or video camera.

## Crop Circles data collection form

1. Site: \_\_\_\_\_
2. Likely date of appearance: \_\_\_\_\_ Date of surveying: \_\_\_\_\_
3. Pattern (drawing), attached as Exhibit A.  
Specify if Non Geometric Crop Formation (N.G.F.) [Y/N] \_\_\_\_\_
4. Magnetic distortion of compass (deviation from magnetic north in degrees, in c-w direction): \_\_\_\_\_
5. Gauss-meter:           value outside formation \_\_\_\_\_           value inside formation \_\_\_\_\_
6. Geiger:                 value outside formation \_\_\_\_\_           value inside formation \_\_\_\_\_
7. Frequency meter:     value outside formation \_\_\_\_\_           value inside formation \_\_\_\_\_
8. Ground temperature:  value outside formation \_\_\_\_\_           value inside formation \_\_\_\_\_
9. pH meter:             value outside formation \_\_\_\_\_           value inside formation \_\_\_\_\_
10. Soil samples, attached as Exhibit B.
11. Seed samples, attached as Exhibit C.
12. Plant stem samples, attached as Exhibit D.
13. Photos, attached as Exhibit E.
14. Film clips, attached as Exhibit F.
15. Formation measurements, attached as Exhibit G.
16. Drawing of direction of plant flow (c-w / a-c-w), attached as Exhibit H.
17. Elongation of stem nodes vis-à-vis the norm (%): \_\_\_\_\_  
possible diagrams of elongation trends, attached as Exhibit I.
18. Microscope analysis (bent stems, leaves, nodes, seeds) , attached as Exhibit L.
19. Laboratory analysis, attached as Exhibit M.
20. Any other observations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
21. Conclusions \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date    \_\_\_ / \_\_\_ / \_\_\_

Name and Surname of researcher \_\_\_\_\_

Signature \_\_\_\_\_