



User guidelines of the Yeoman's plough

The Yeoman's plough is a plough design by Yeomans in Australia. His idea was to develop an agricultural instrument that fulfilled two objectives:

- The use of the equipment must produce a soil and subsoil environment wherein soil life will thrive and proliferate.
- It needs to be strong, and last. It needs to be reliable and efficient.

Yeoman's ploughs are used to apply **Keylines** which have the following function:

- reduce erosion
- reduce waterlogging
- increase water retention and distribution

If a replication plan implies **carrying out Keylines**, a Yeoman's plough similar to the one used in LIFE Regenerate (Image 1) may be used. This Yeomans plough can control the depth of the points into the soil. The depth applied will depend on the characteristics of the soil and the area (bare soil, low vegetation, presence of roots, etc.).



Image 1. Yeoman's plough used in LIFE Regenerate project.

The use of the Yeoman's plough requires numerous considerations. Furthermore, Keyline design involves multiple elements that should be determined by a professional that understands water flow systems. This professional will identify contour lines and how the water runs through them, define where the artificial water ponds should be established, and more.

Associations such as ALveLal and Alejab have professionals that can help with the design and carry out the Keyline.

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Specifically, in LIFE Regenerate, the plough and the creation of contour lines have two main purposes:

1. To harvest and redistribute water in the different parts of the field

This will be done:

- Using a map that shows the topography of the land, the contour lines will be identified. Depending on the soil characteristics and the slope of the terrain, the distance of the key lines that would be marked on the terrain will vary (more key lines will be done when the slope is higher and the soil presents difficulties to absorb the water).
- When the contour lines and the distance between lines are chosen, the ponds where the water will be harvested will be designed.
- When all the design is done the coordinates of the contour lines are defined and introduced into a GPS
- Using the GPS coordinates the tractor with the plough will carry out the Keylines previously selected in the design phase.

2. To prevent dispersion of Phytophthora

Phytophthora can be prevented by increasing soil drainage. The use of the Yeomans plough to prevent these diseases will follow the same instructions as the ones mentioned above.

- The plot will be studied and the Phytophthora disease will be identified (This will not be necessary if it is only to prevent its appearance).
- The contour lines will be identified in the map and the key lines will be carried out by the Yeoman's plough according to the GPS coordinates.
- When the key lines are done, the water will run along them avoiding waterlogging and decreasing the possibilities of Phytophthora appearance and dispersion.