

Controlled drainage

Having control on the drainage water benefits both the farmer and the environment. With a controlled sub-surface draining system the farmer can have affect on the water conditions of the field throughout the season and the disturbance of the external load to the receiving waterbody can be reduced.

Similar terms: controlled subsurface drainage system

In a controlled drainage system the ground water can be adjusted to the desired level which is usually at least 0,5m below the surface of the field.

The control mechanisms can be opened or closed depending on the conditions. E.g. system can be closed in the dry season and opened when working on the field with heavy machinery to avoid soil compaction.

All this enhance the soil structure and steadies water outflow and surface run-off resulting to less nutrient leaching and better crops. The system can also be utilized in sub irrigation using external water source.¹⁾

Application

Controlled drainage system is best suited to soils that can conduct water. Slope of the field should not exceed 2% as impractical amount of wells would be needed.¹⁾ On flat areas one control well is needed every 1-2 hectares.²⁾

The regulation system can be installed when establishing a new subsurface drainage system but it is usually relatively easy and cheap to add to an existing system also.

Controlled drainage system could also be a way to reduce harmful environmental risks of those acid sulphate soils caused by land uplift and drainage especially found in Finland.¹⁾

Maintenance

- The water level has to be monitored from control pipes manually
- The control wells need regular maintenance

Economics

- Costs can vary. In Finland, costs for one controll and observation well installed are approximately 650 €/1-2ha²⁾
- Subsidues can be applied in some countries

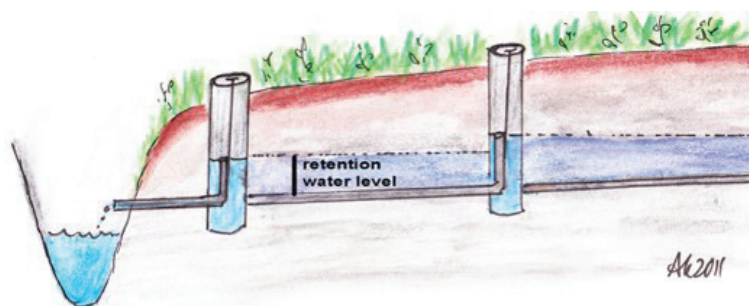


Illustration: Airi Kulmala, Baltic Deal

Further information:

[Baltic Deal - Controlled drainage](#)

Sources: 1) Baltic Deal 2011. Controlled drainage. Searched 3/2018. ([Link](#))

2) Maaseutuvirasto 2009. Säättösalaojituksen, säättökastelun tai kuivatusvesien kierrätyksen hoitotoimenpiteet (FI). ([Link](#))