Monitoring program – chemical weed control.

TRAFIKVERKET

Object of the project

- In the long term, improving the understanding of the spread of glyphosate.
- In the short term, measuring the leakage of glyphosate to the groundwater.
- In the short term, measuring the storage of glyphosate and diuron in the soil.

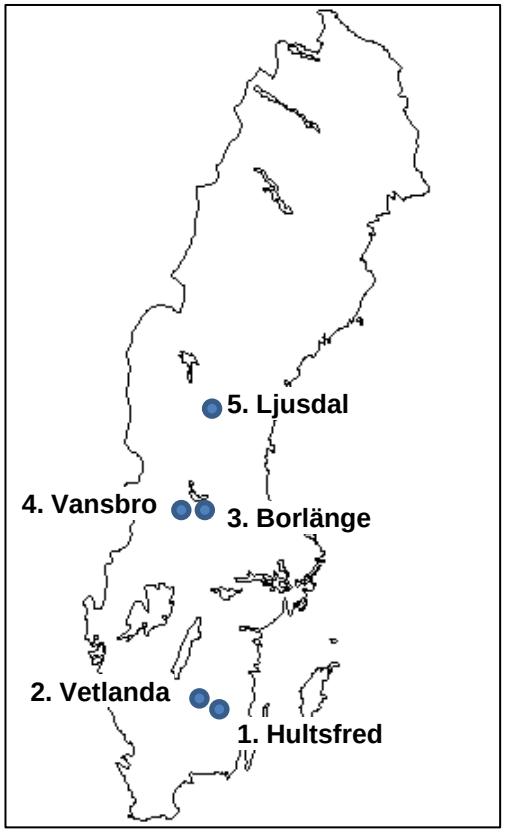
Short history

In general:

- Round up (glyphosate) has been used since 1995.
- Karmex 80 (diuron) has not been used from the 50th to 1993.

Sites and selection criteria.

- 5 sites.
- Selection criteria:
  - Variation of hydrogeological conditions (silt, till, sand; Height of the unsaturated zone).
  - Variation of precipitation and evaporation.
  - No sensitive objects nearby.
  - No chemical weed control in the surrounding area.
  - Easily accessible by car.
  - Financial limitations.



Scope

- At each site:
  - 5 monitoring wells in shallow groundwater (three in the embankment, one upstream, two downstream).
  - 5 points for sampling soil at two depth (upper part of the unsaturated zone).
- Monitoring frequency 3 times/year:
  - 10 days after treatment
  - 3 month after treatment
  - 9 month after treatment.
- Duration: So far 1 year. For the future we haven´t decided a time limit. We will make an evaluation each 3 years.
- Analyses: Glyphosate, AMPA and diuron.

Results (groundwater)

- Glyphosate has been detected in 1 well (embankment), at the first measurement after the treatment. 0,12 µg/l (EU guideline value is 0,1 µg/l for individual substances and 0,5 µg/l for all substances as a total).
- AMPA has not been detected.
- At 1 site diuron has frequently been detected in low concentrations (at most 0,05 µg/l).

Results (soil)

- Glyphosate has frequently been detected at 4 sites in concentrations up to 4 mg/kg.
- AMPA has frequently been detected at 4 sites in concentrations up to 1,6 mg/kg.
- Diuron has frequently been detected at 2 sites in concentrations up to 0,1 mg/kg.