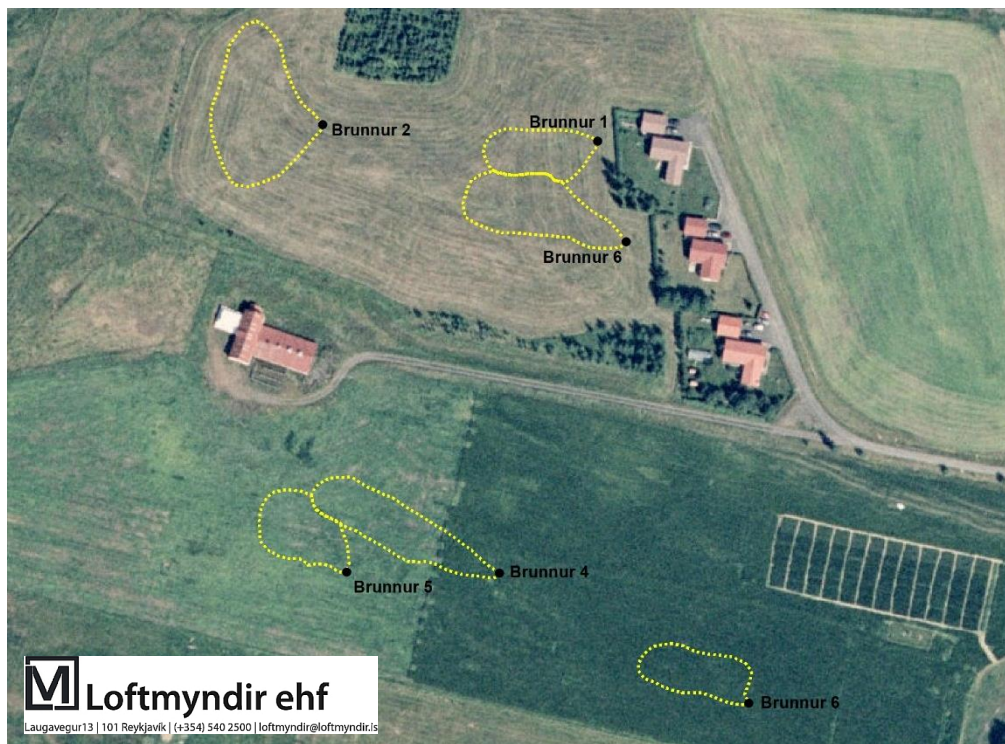


Monitoring surface water runoff and deep drainage from hayfields at Möðruvellir, Iceland



Picture showing position of the plots at Möðruvellir. Background areal photograph from Loftmyndir ehf

- In 2016-17 setup of runoff and deep drainage monitoring was funded by NPAP and Agricultural University of Iceland through Water Pro project.
- The monitoring set up is on two hayfields each with three replications. The objective by the setup is to enable estimate of different management regimes to decrease nutrient losses.
- The setup consist of;
 - Cavity for monitoring surface runoff flow and enable sampling of runoff water
 - Water directing fences and sink funneling the water to the cavity
 - 3G gauge from Decacom ... for monitoring deep drainage cumulative amount and sampling
 - Power supply and logging equipment for surface runoff flow.



Monitoring surface water runoff and deep drainage from hayfields at Möðruvellir, N-Iceland



Measurement

- The monitoring network consists of six separate plots. On each plot surface runoff flow of defined area is monitored and cumulative deep-drainage flow between sampling times. Surface runoff flow is recorded every 5 minutes.
- Samples are taken every two weeks and the nutrient content (NH_4^+ , NO_3 , PO_4^{2-}) in samples is measured. The surface runoff samples reflect the content of nutrients in last runoff event before sampling.
- A weather station run by the Metrological office of Iceland is located at Möðruvellir on one of the hayfields
- Surface flow at each plot is monitored by ultrasonic distance meter UM30 from Sick Sensor Intelligence, measuring distance to water behind a weir inside 10 cm Ø pipe, connected to sink collecting all surface flows from delineated area.
- Deep drainage is monitored G3 Drain Gauge, closed wick lysimeter with PVC DCT (divergence control tube) from Decagon Devices, Inc. The lysimeter collect all water percolating through the root zone at fixed area.

Management regime

- The set up is designed to enable comparison of different management regimes. It enables studies on e.g. effects of different timing of fertilizers application and quantities on losses of nutrients through surface run off and deep drainage.
- The site was installed and designed by Agricultural university of Iceland as part of the WaterPro project. The site will be run as part of the project until June 2019.
- After the end of WaterPro project the site will be made available for further studies at the site



Northern Periphery and
Arctic Programme
2014-2020



EUROPEAN UNION

Investing in your future
European Regional Development Fund