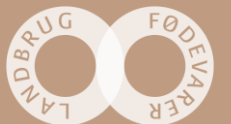


# Nitrat målinger med N-strips

Chefforsker Charlotte Kjærgaard & chefkonsulent Flemming Gertz,  
SEGES

Lektor Bo Vangsø Iversen, Inst. Agroøkologi, AU

**SEGES**



# Nitrate-app

[www.deltares.nl/nitrate-app](http://www.deltares.nl/nitrate-app)



1



2

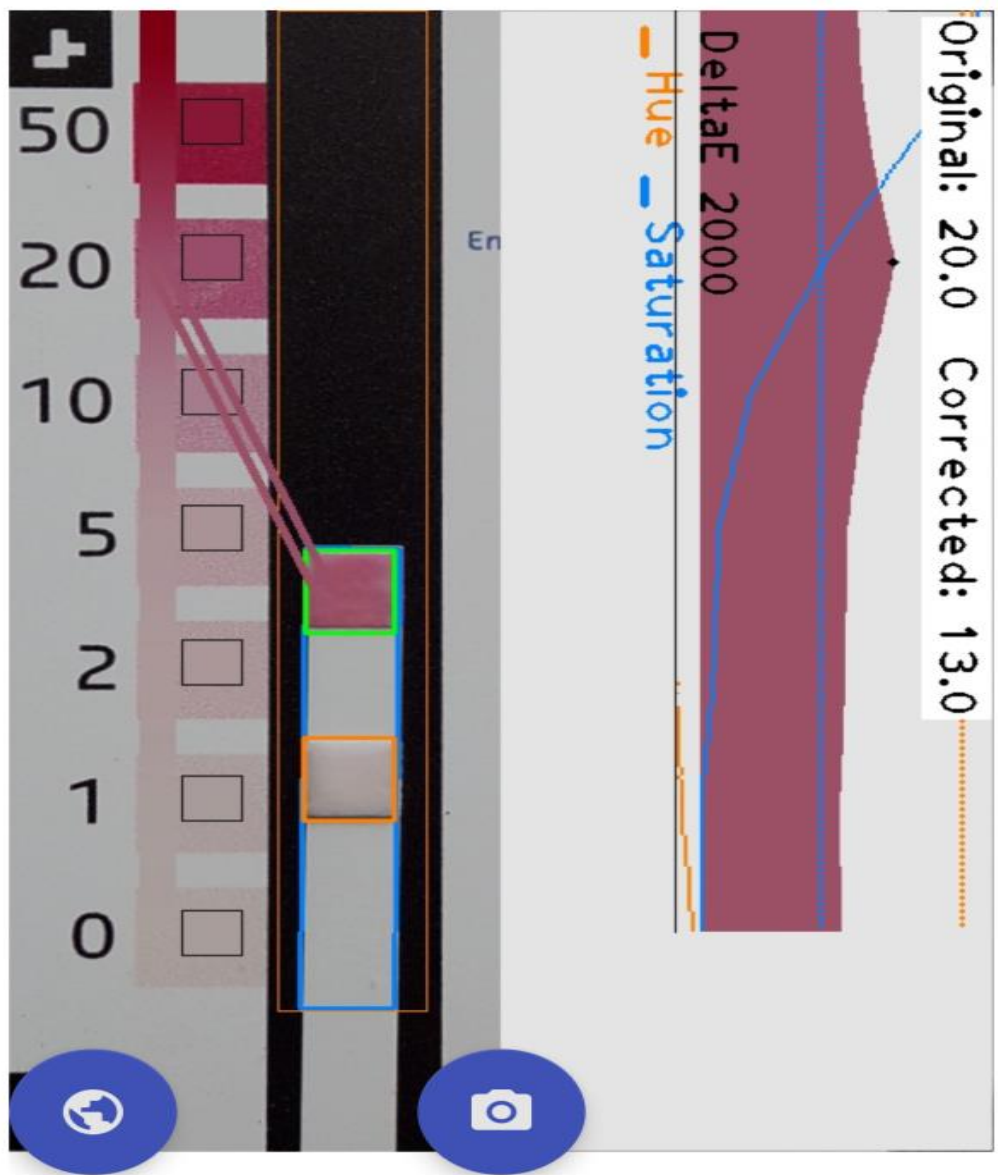


3

4



# Result screen



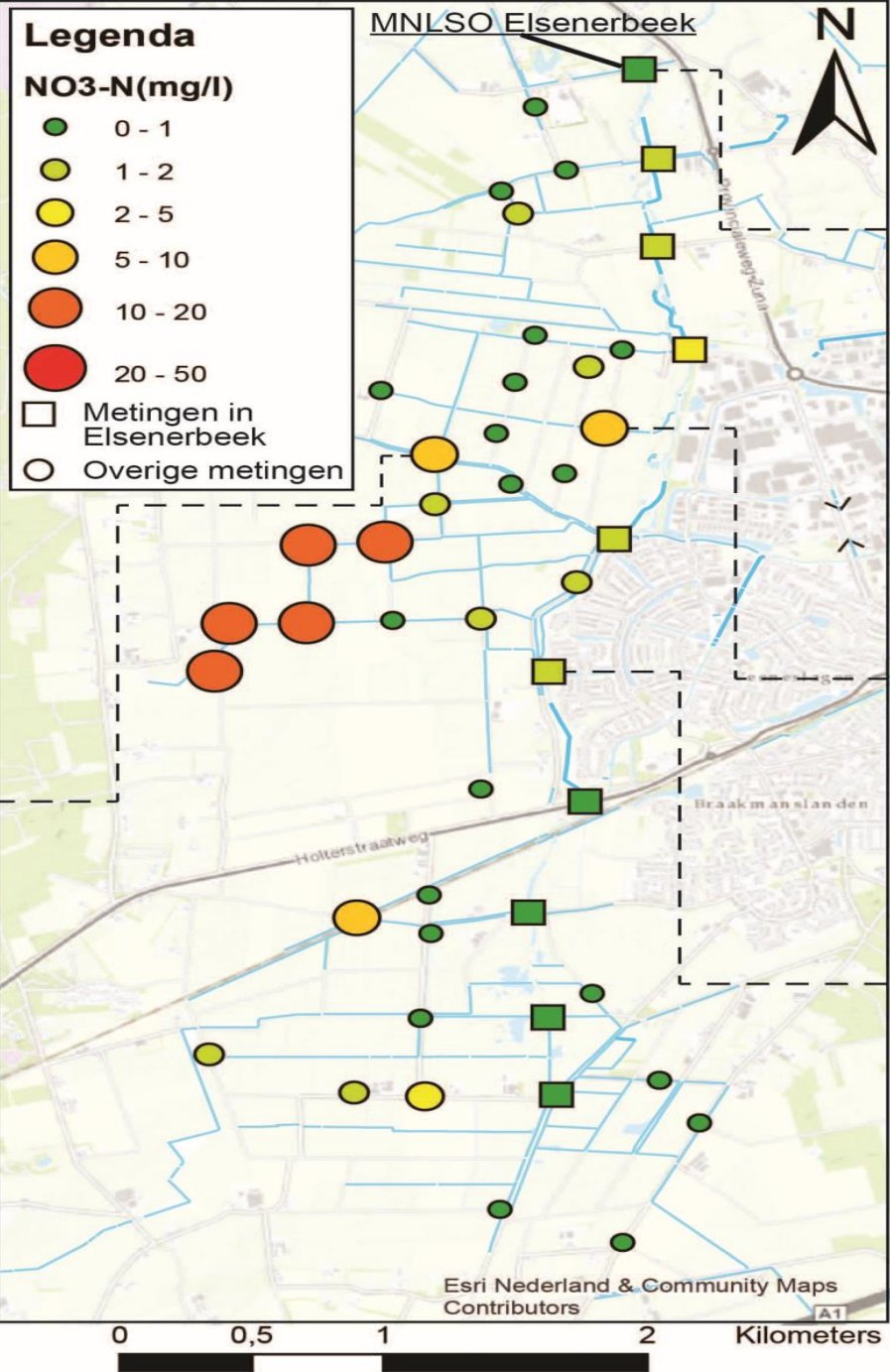


Zoom in to current location



Time slider

# Elsenerbeek, Rijssen



Datum metingen: 14-02-2017  
Auteur: Jasper Snijders

# Forsøgsdesign

## Test 1

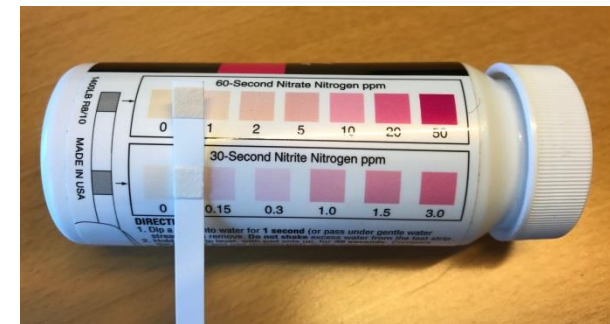
- Laboratorie standardkurver med 11 konc. punkter i intervallet 0,5 til 30 mg/l NO<sub>3</sub>-N
- Målinger i ligevægt ved 2°C, 10°C og 20°C
- Aflæsning af måling ved sekunder 30, 60, 90, 120, 150
- I alt 165 analyser

## Test 2

- Drænvandsprøver fra 10 lokaliteter <1 til 12 mg/l NO<sub>3</sub>-N
- Målinger i ligevægt ved 2°C, 10°C og 20°C
- Aflæsning af måling ved sekunder 30, 60, 90, 120, 150
- I alt 150 analyser

## Forsøgsbetingelser

- Konstant lyskilde – ingen skyggeeffekt (laboratorielys)
- Fast afstand fra kamera til strip ved aflæsning



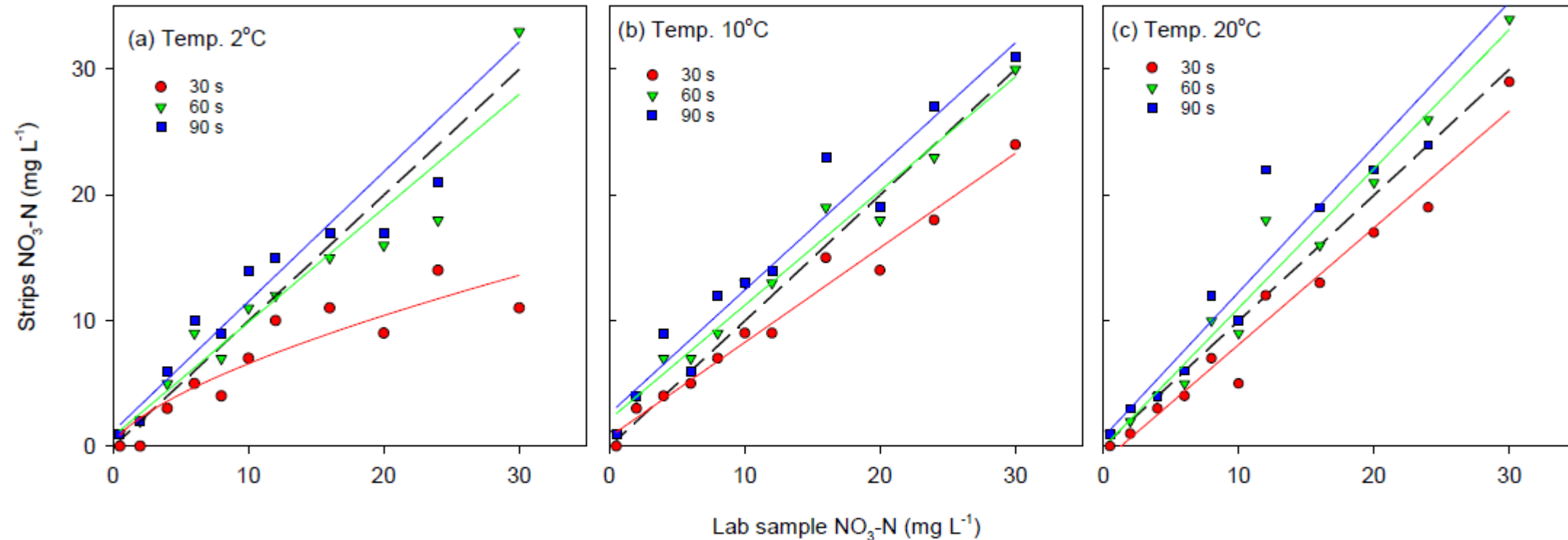
Testing N-strips measuring  $\text{NO}_3\text{-N}$  using app

Figure 1.  $\text{NO}_3\text{-N}$  readings after time 30 sec, 60 sec and 90 sec at water and air temperature of 2°C (a), 10°C (b) and 20°C (c) using lab standard samples.  $\text{NO}_3\text{-N}$  concentration measured using standard analytical laboratory procedure (x-axis) versus reading of  $\text{NO}_3\text{-N}$  concentration using strip and app. Dotted line marks 1:1 regression line.

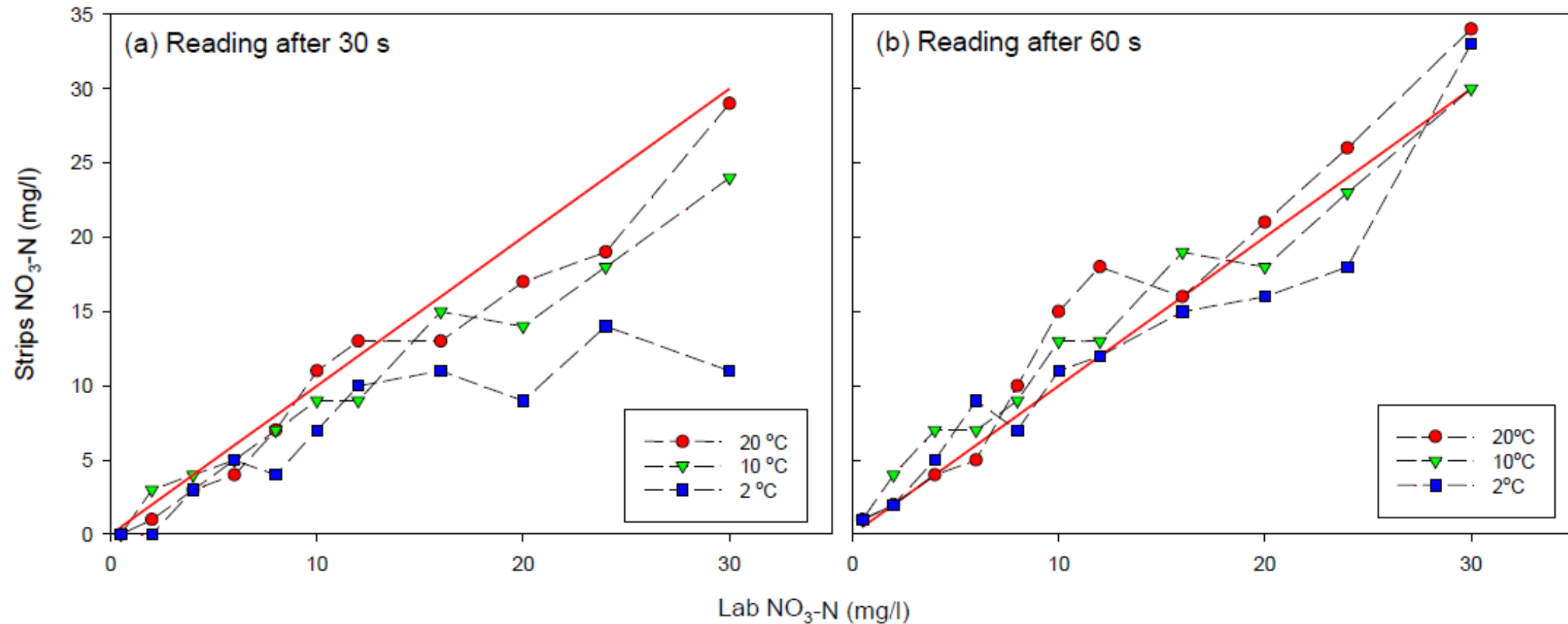
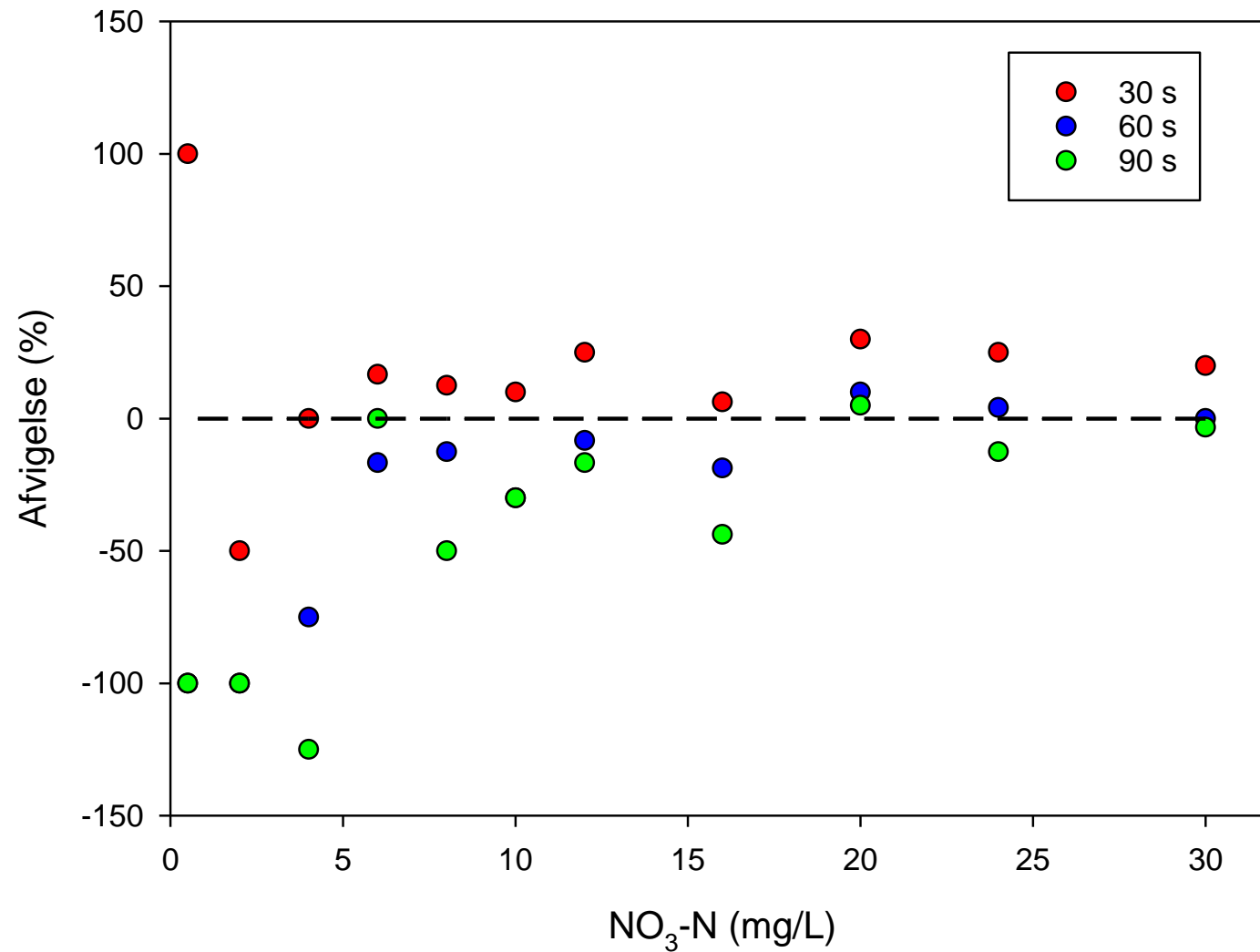


Figure 2.  $\text{NO}_3\text{-N}$  readings after time (a) 30 sec and (b) 60 sec at water and air temperature of 2°C, 10°C and 20°C using lab standard samples.  $\text{NO}_3\text{-N}$  concentration measured using standard analytical laboratory procedure (x-axis) versus reading of  $\text{NO}_3\text{-N}$  concentration using strip and app. Red line marks 1:1 regression line.



# Afvigelse på NO<sub>3</sub>-N strip målinger



## Middelværdi af målinger 30 sek og 60 sek

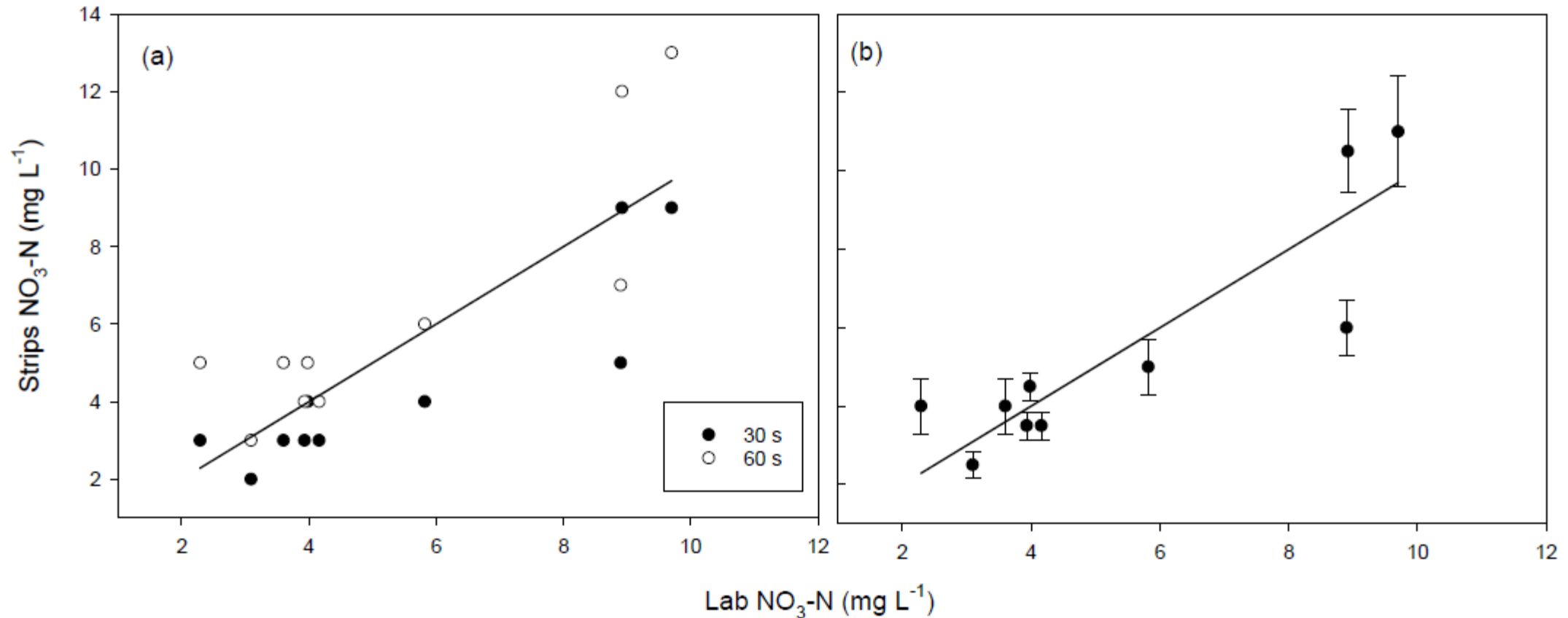
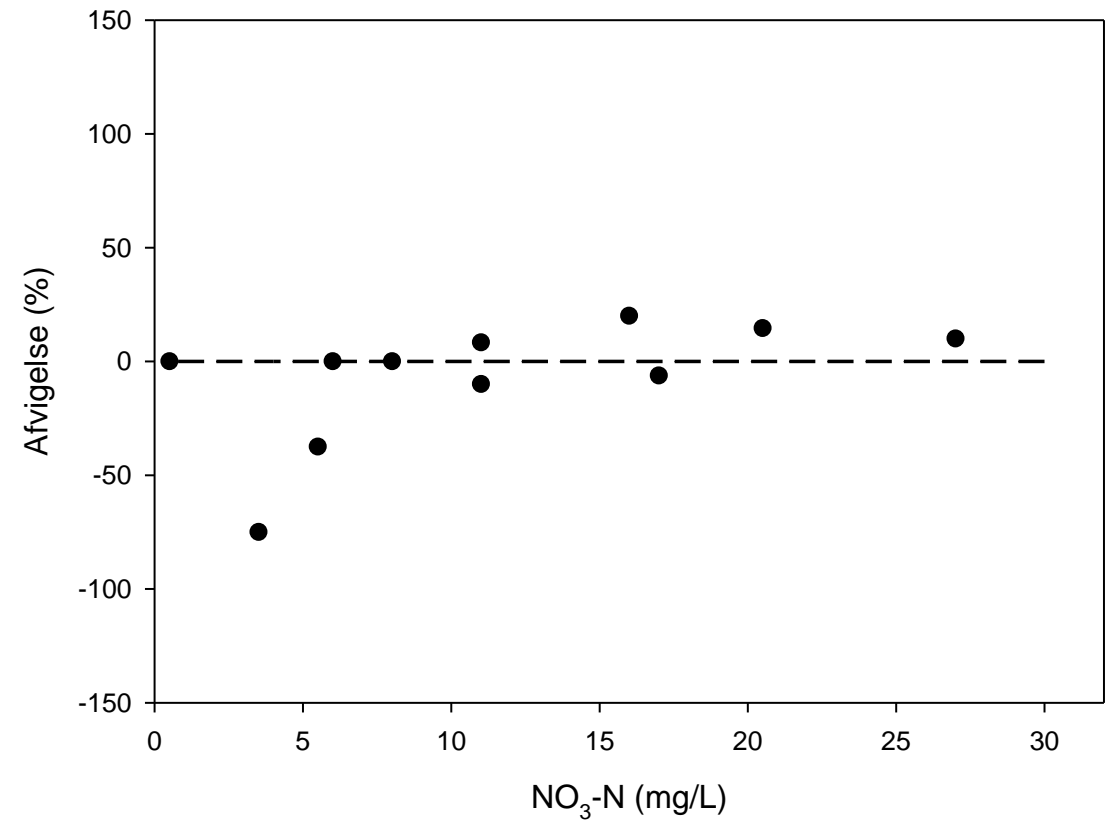
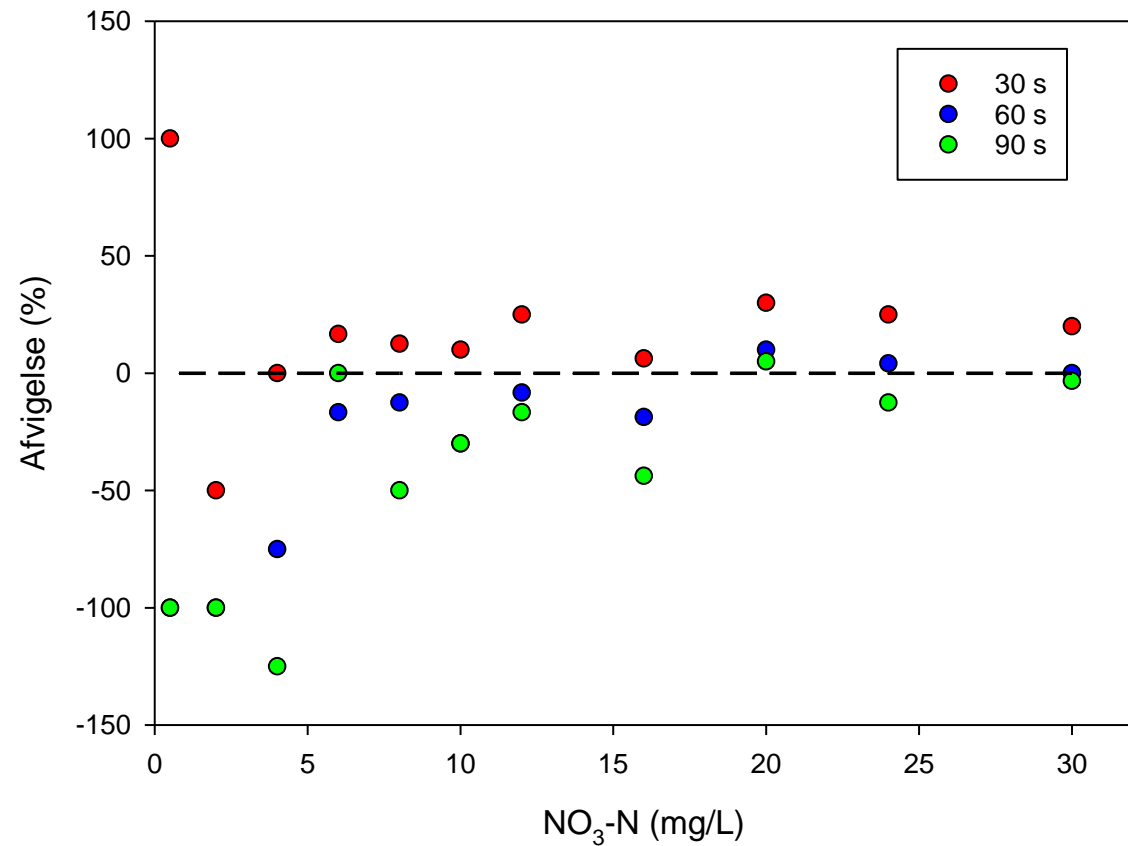


Figure 3. NO<sub>3</sub>-N readings after (a) time 30 sec and 60 sec at water and air temperature of 10°C using field drainage samples, and (b) average and standard deviation of NO<sub>3</sub>-N readings at 30 and 60 sec. NO<sub>3</sub>-N concentration measured using standard analytical laboratory procedure (x-axis) versus reading of NO<sub>3</sub>-N concentration using strip and app. Black line marks 1:1 regression line.

# Afvigelse på NO<sub>3</sub>-N strip målinger



# Status

- Opfølgende målinger – flere gentagelser
- Test af vandprøver fra okker-dræn (filtrering)
- Præsentation for styrelserne på TReNDS afslutningsseminar (slut November)
- Rapport og anbefalinger til styrelserne december
- Præsentation for Miljøministeriet i Holland
- Præsentation ved international konference i DK (forår 2019)