

# Watergift, bemesting en uitspoeling bioteelt

Stand van zaken

Knelpunten

Acties

Wim Voogt,  
Aat van Winkel



# Uitspoelingsonderzoek 2008 - 2010

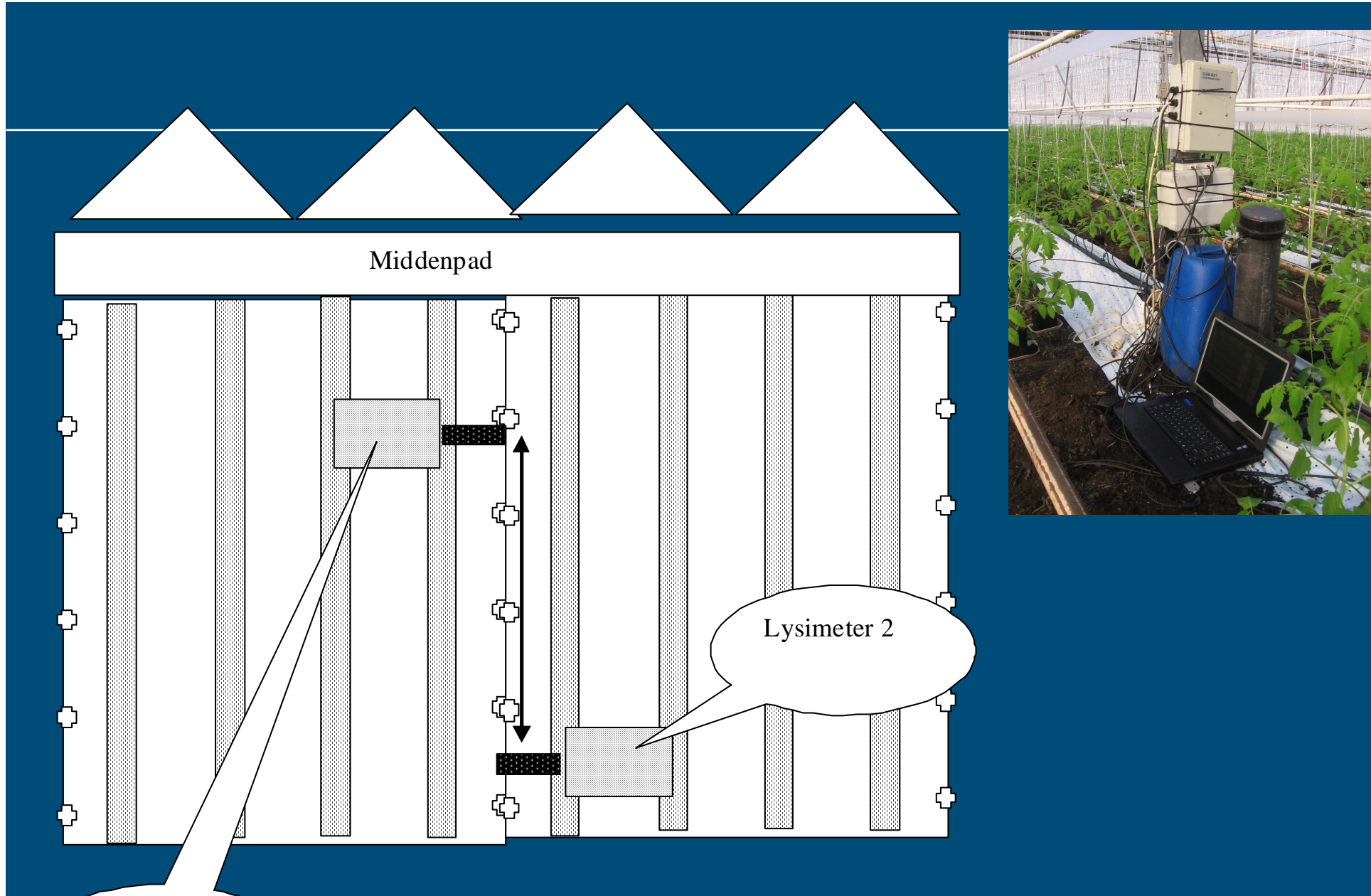


Lysimeters  
4(5) bedrijven



WAGENINGEN UR

*For quality of life*



Lysimeter 1

Lysimeter 2

# Resultaten 2008

- De Koning
  - geen beregeningsoverschot
  - geen gemeten drain
- Van Dijk
  - geen beregeningsoverschot
  - Wel drain ca 30 mm
  - N emissie 6 – 10 kg/ha
- Jonkers
  - Beregeningsoverschot 0
  - Drain = 0
- Verbeek
  - Beregeningsoverschot ca 75 mm
  - Gemeten drain ca 10 mm
  - N emissie 2 – 3 kg/ha
- P-emissie in alle gevallen zeer laag, max 0.2 kg/ha/jr

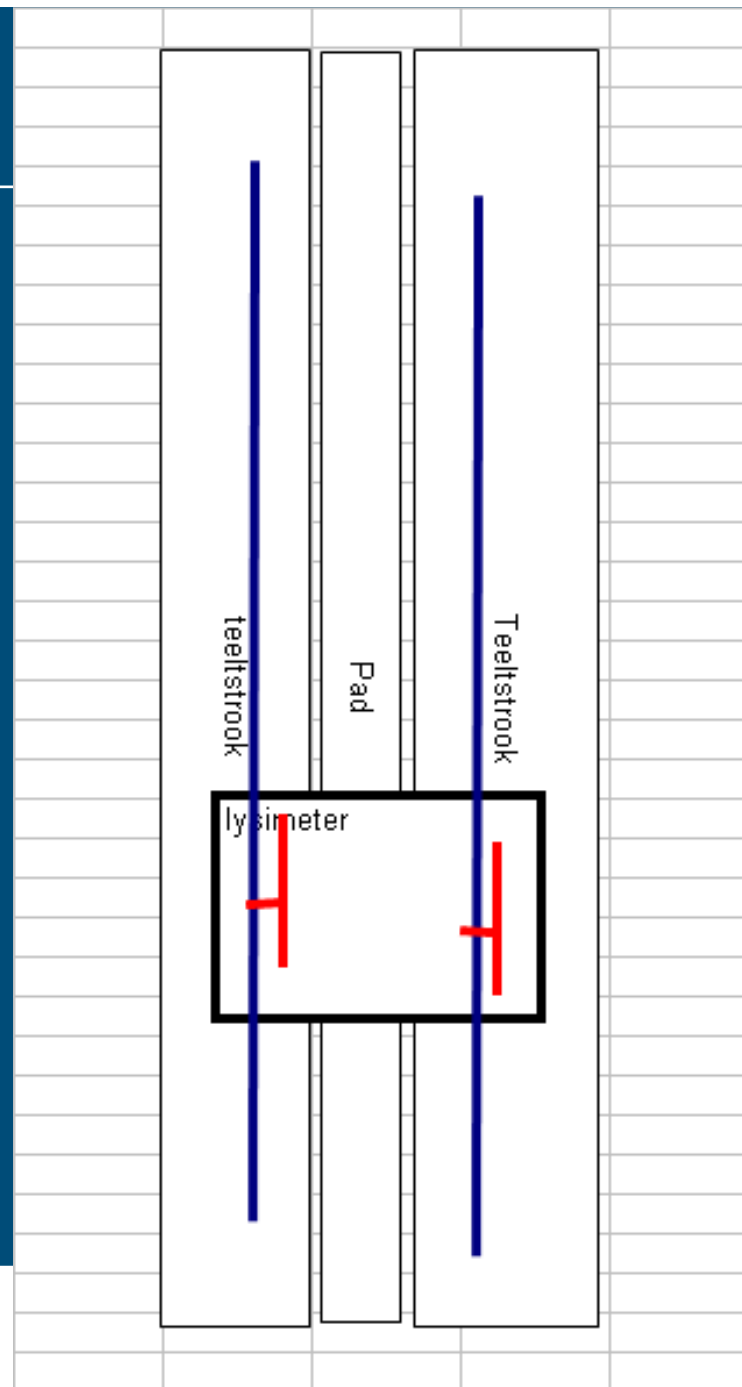


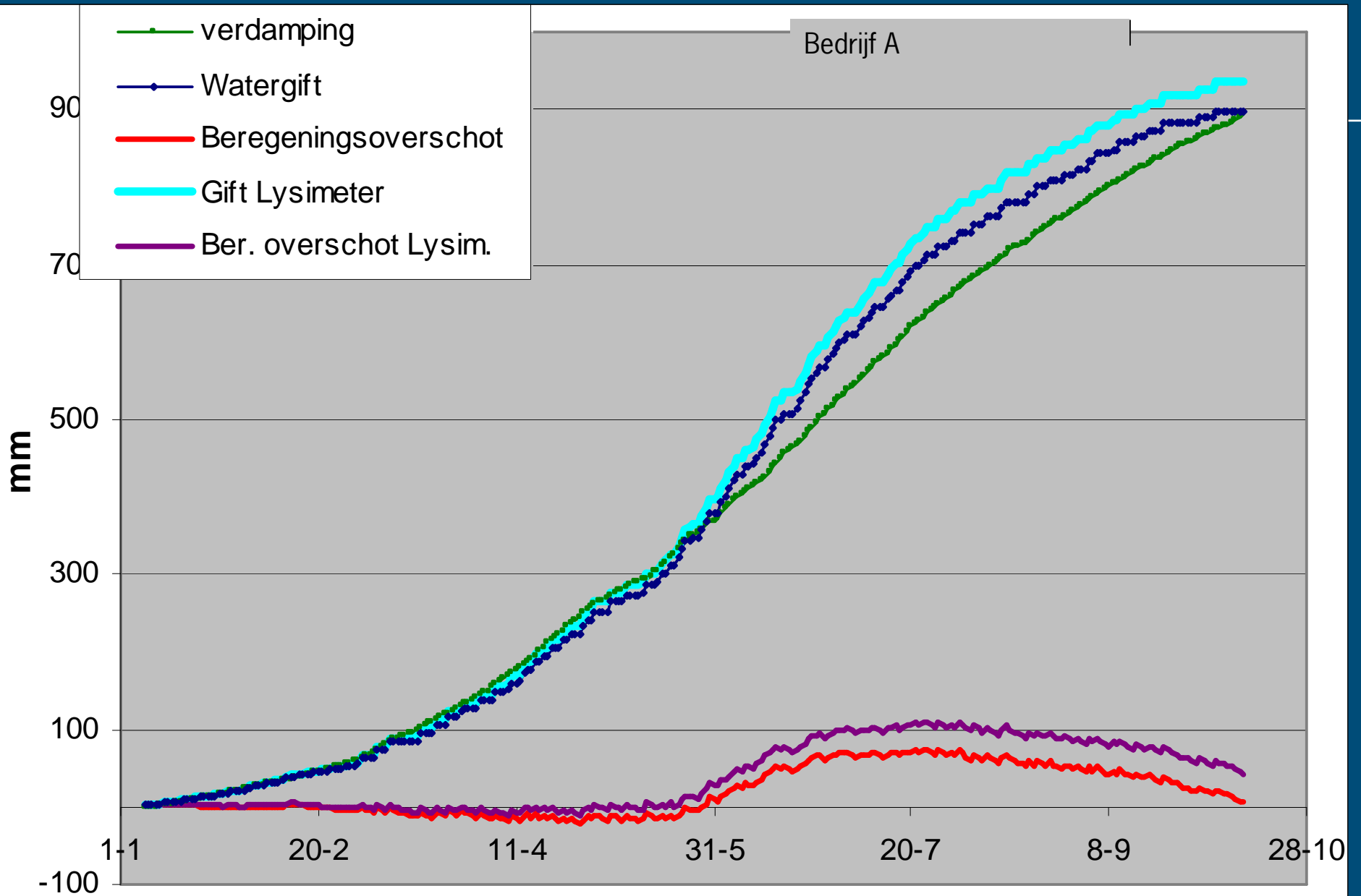
# Seizoen 2009

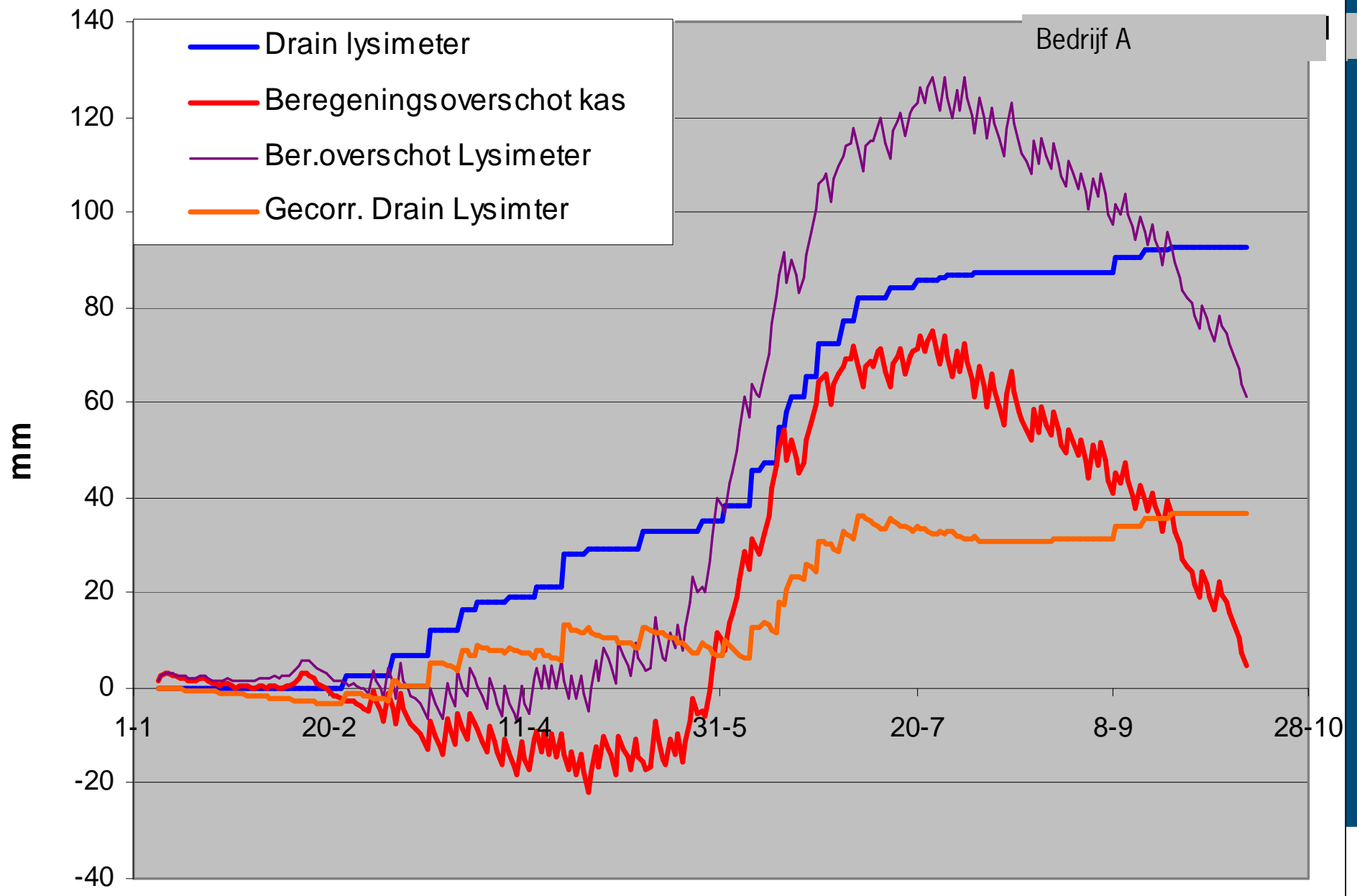
- Verbeek nagenoeg 0 emissie
- Van Dijk 65 kg N, 0.6 kg P
- Jonkers 0 emissie
- De Koning 0 emissie
- Van Brakel 20 kg N, 0.5 kg P

# Situatie 2010

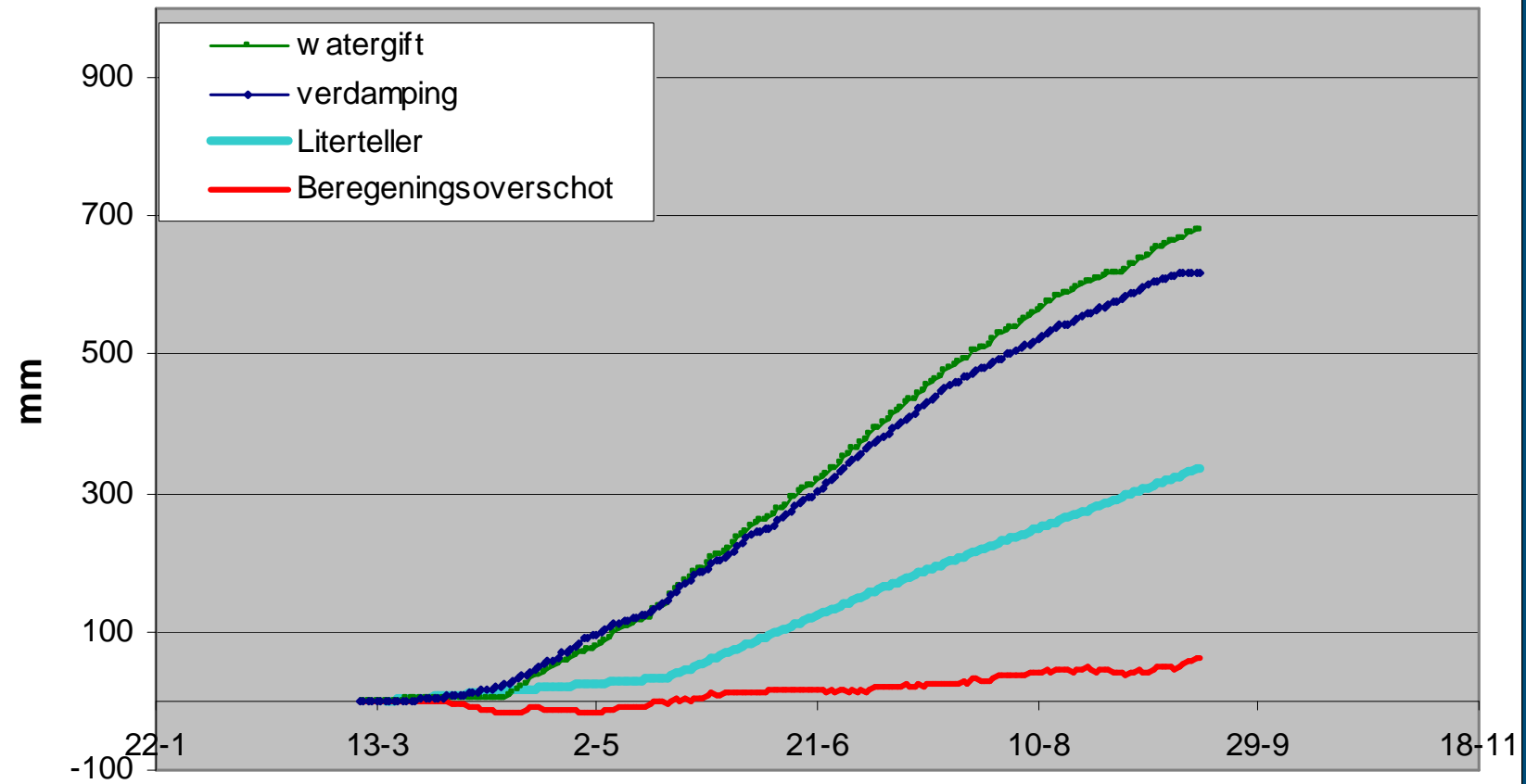
“Geforceerd” drain productie.  
Bij lysimeters extra druppelaars geplaatst  
Mogelijkheid van “aan” / “uit” zetten

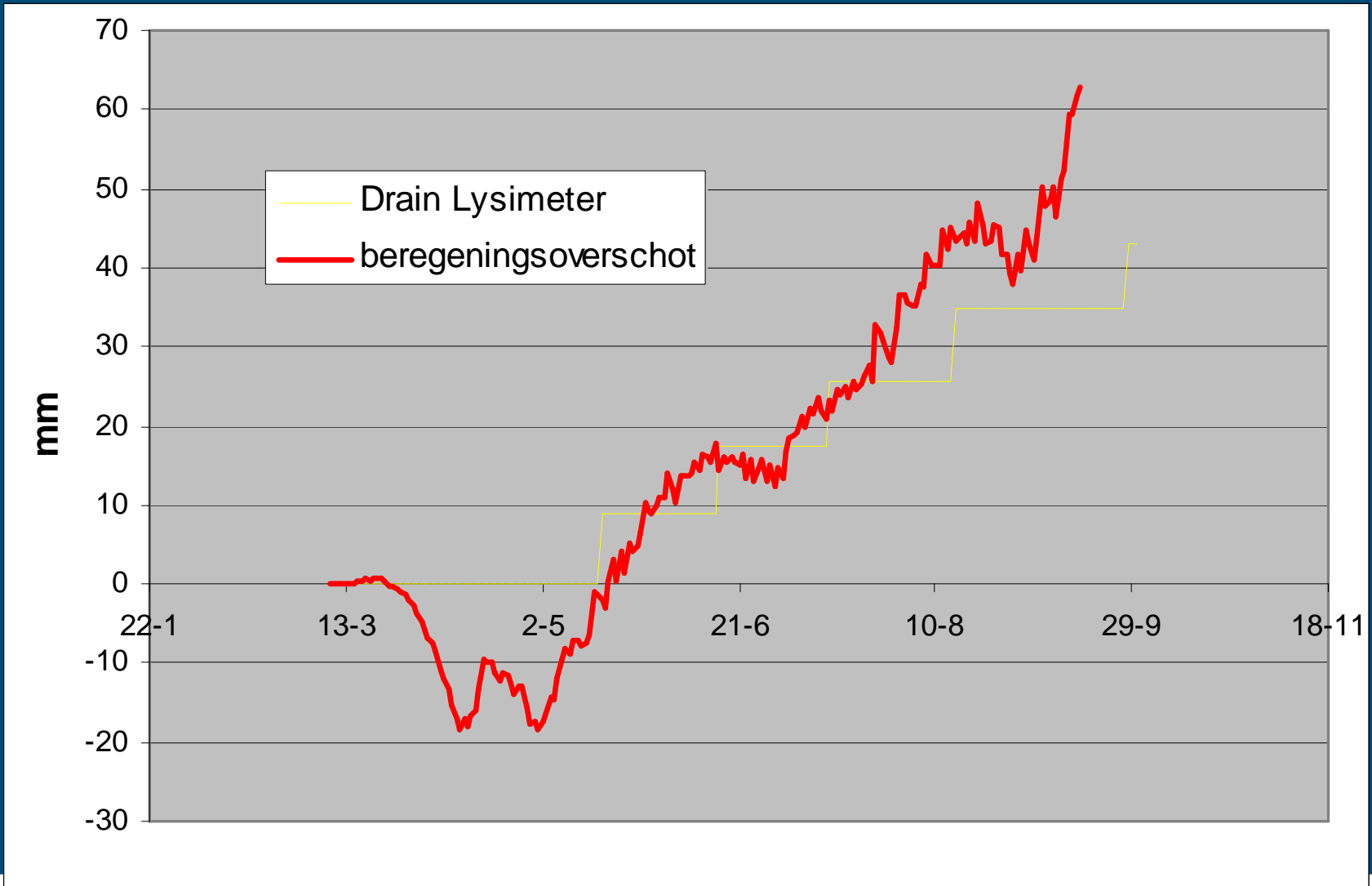






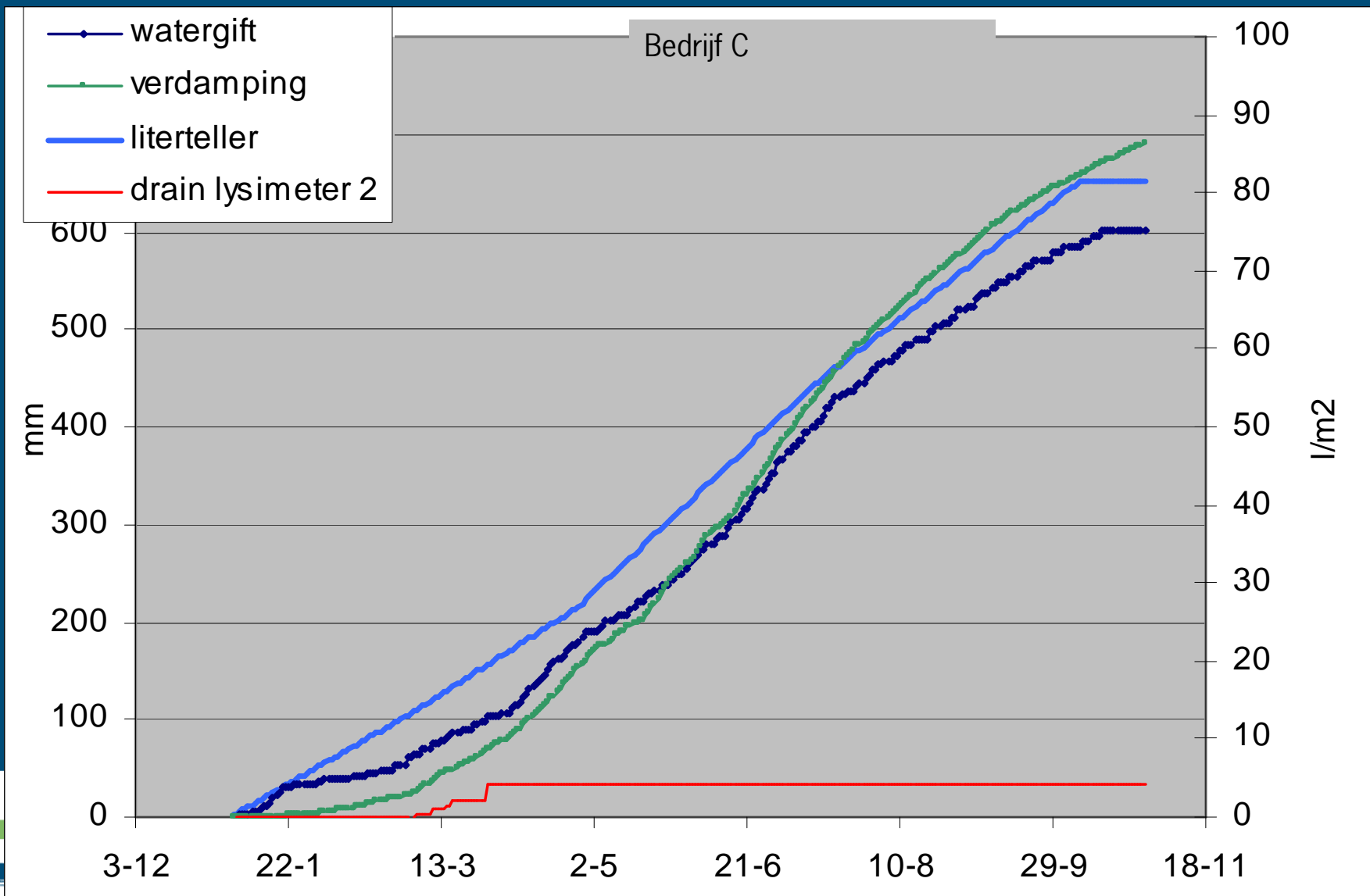
Bedrijf B





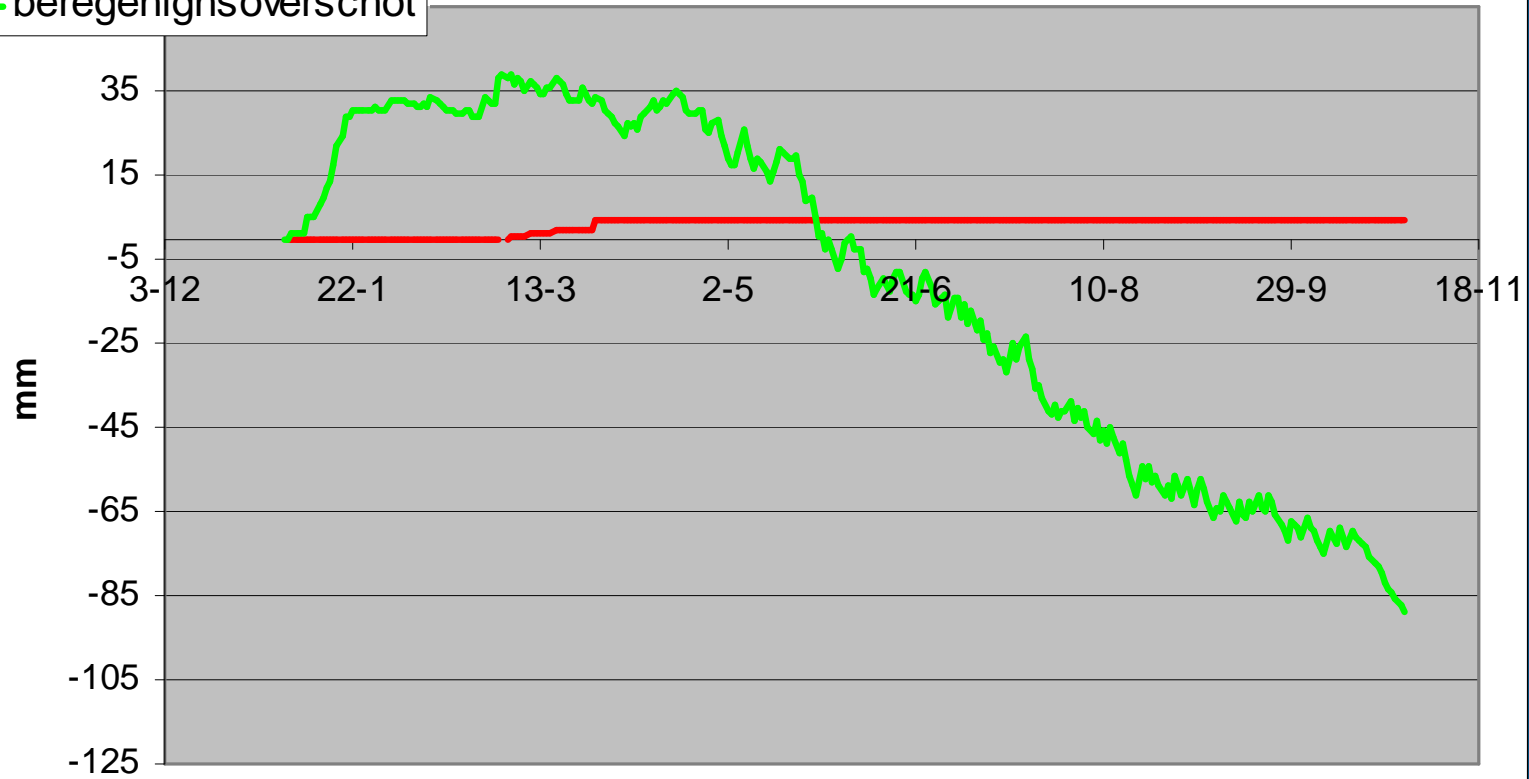
WAGENINGENUR

For quality of life

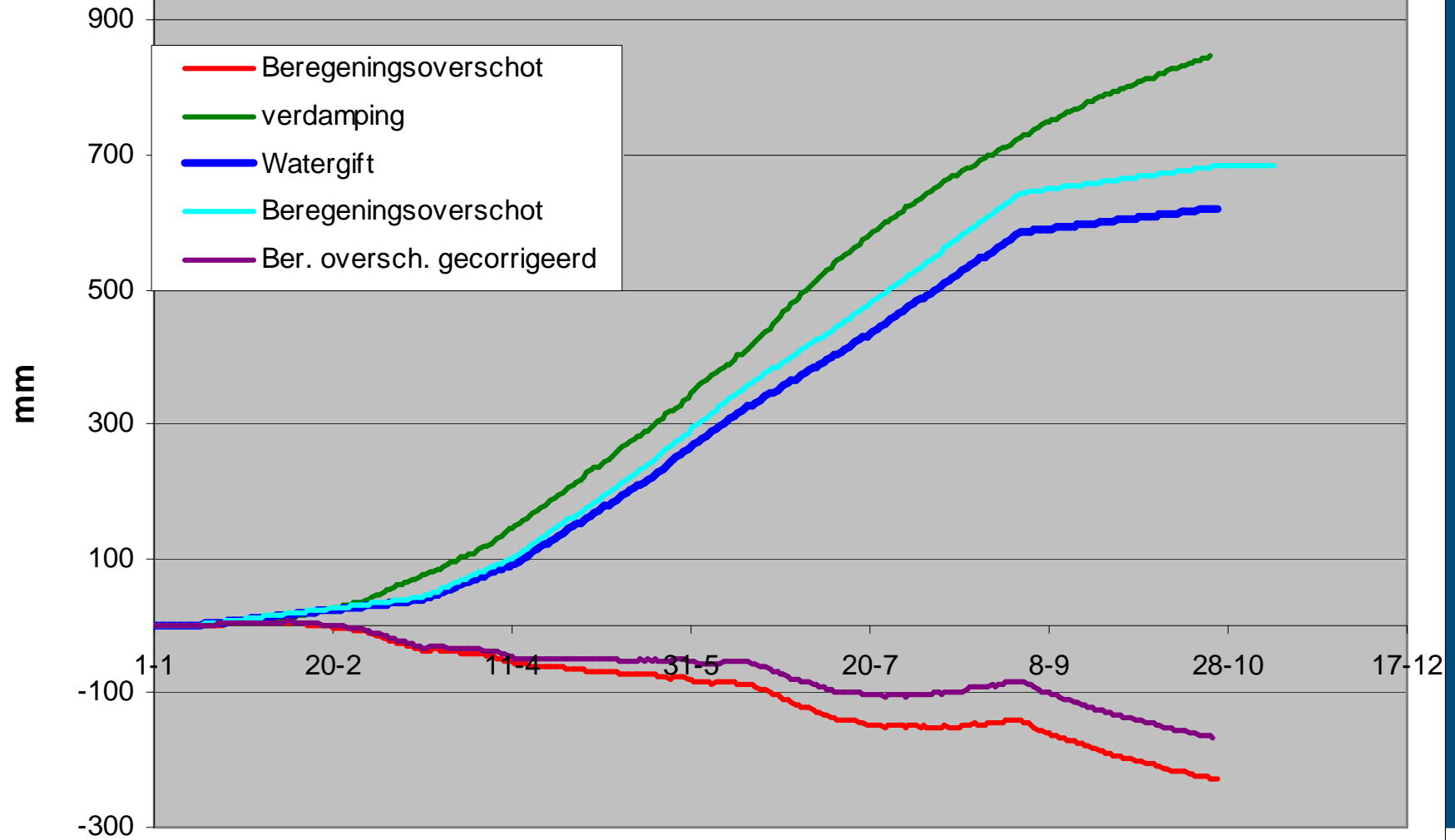


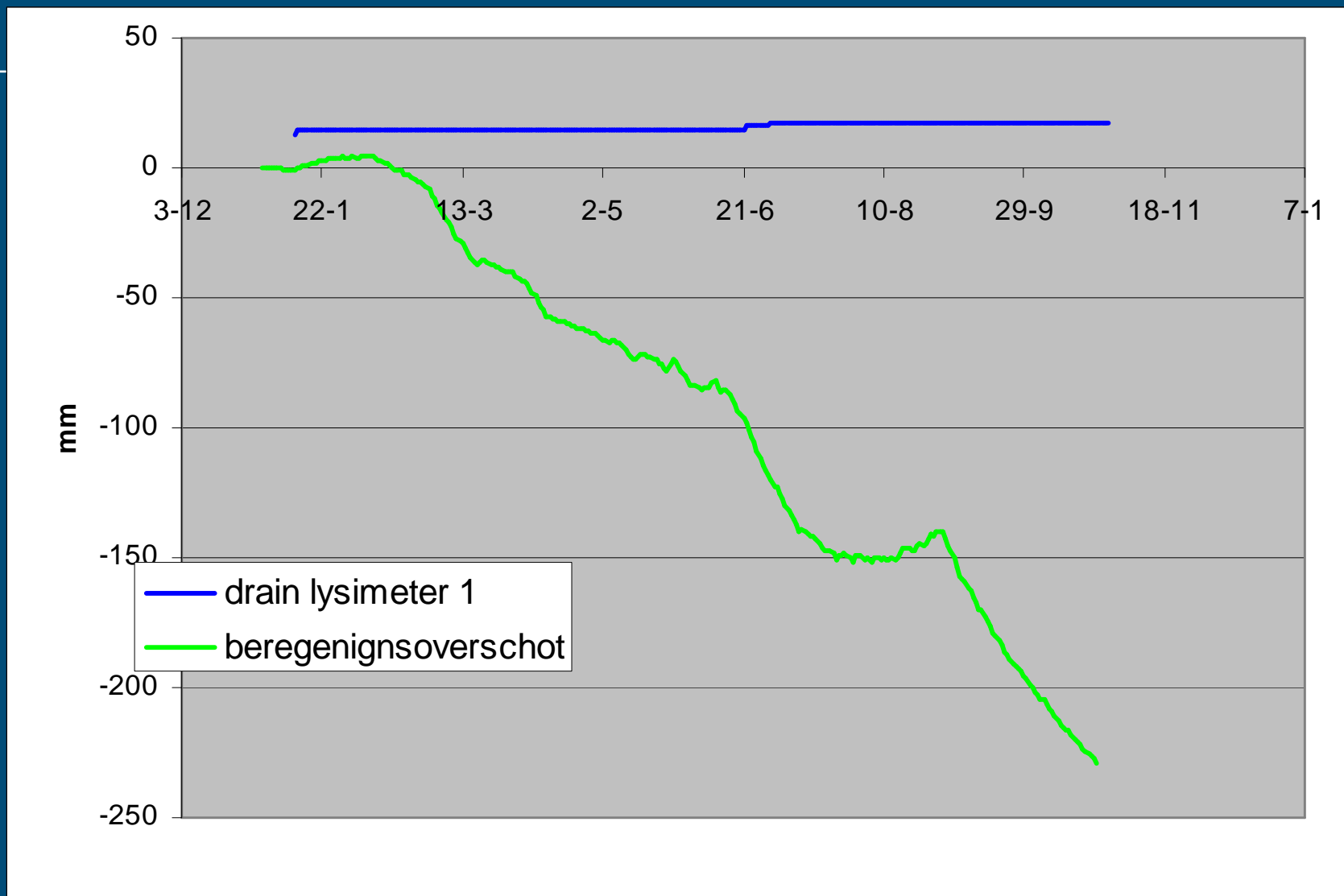
Bedrijf C

- drain lysimeter
- beregeningsoverschot



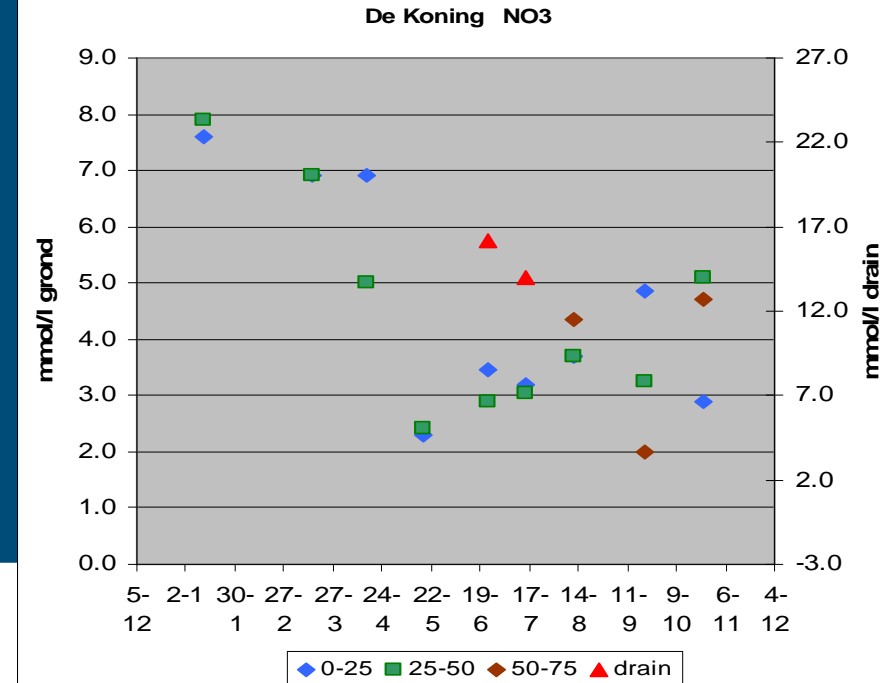
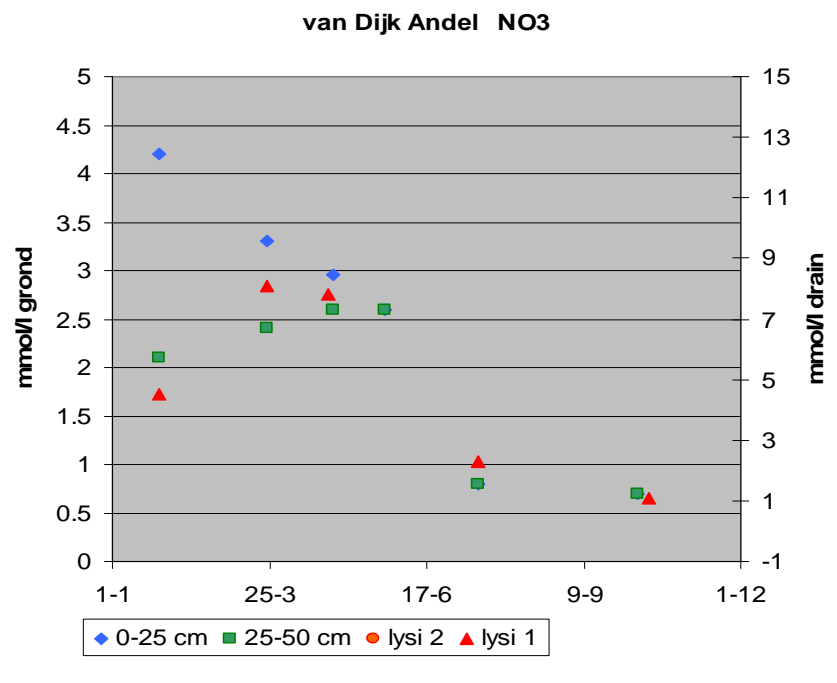
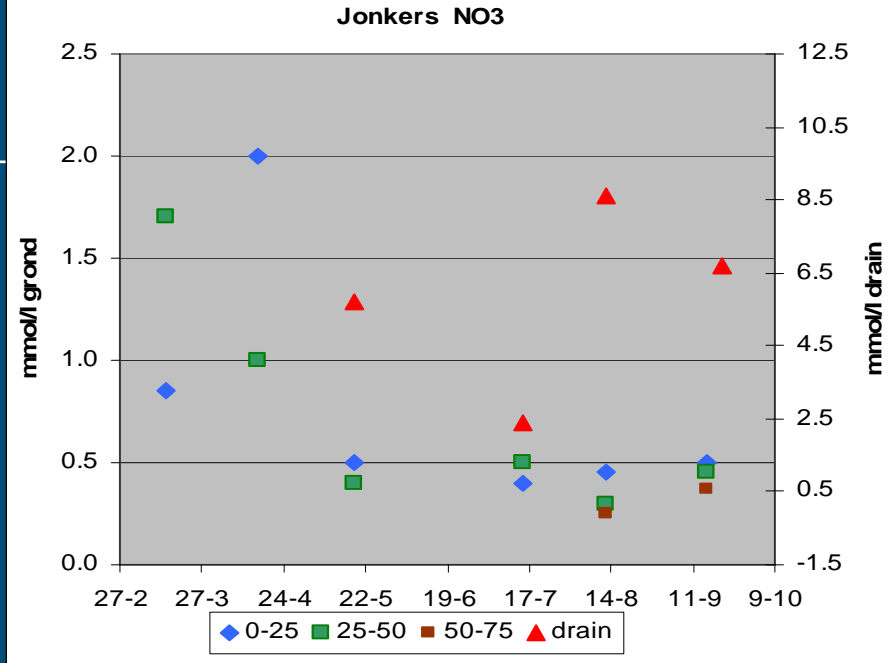
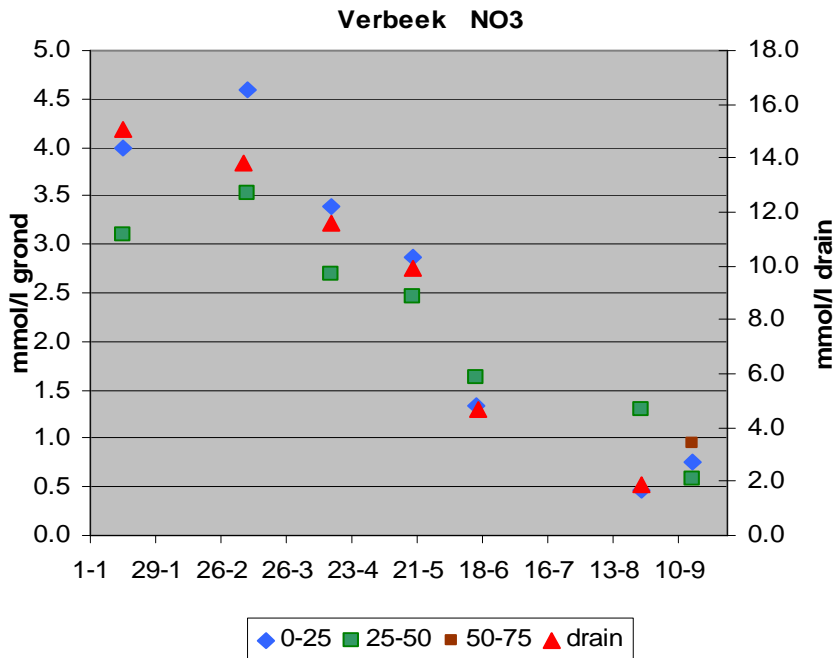
### Bedrijf D

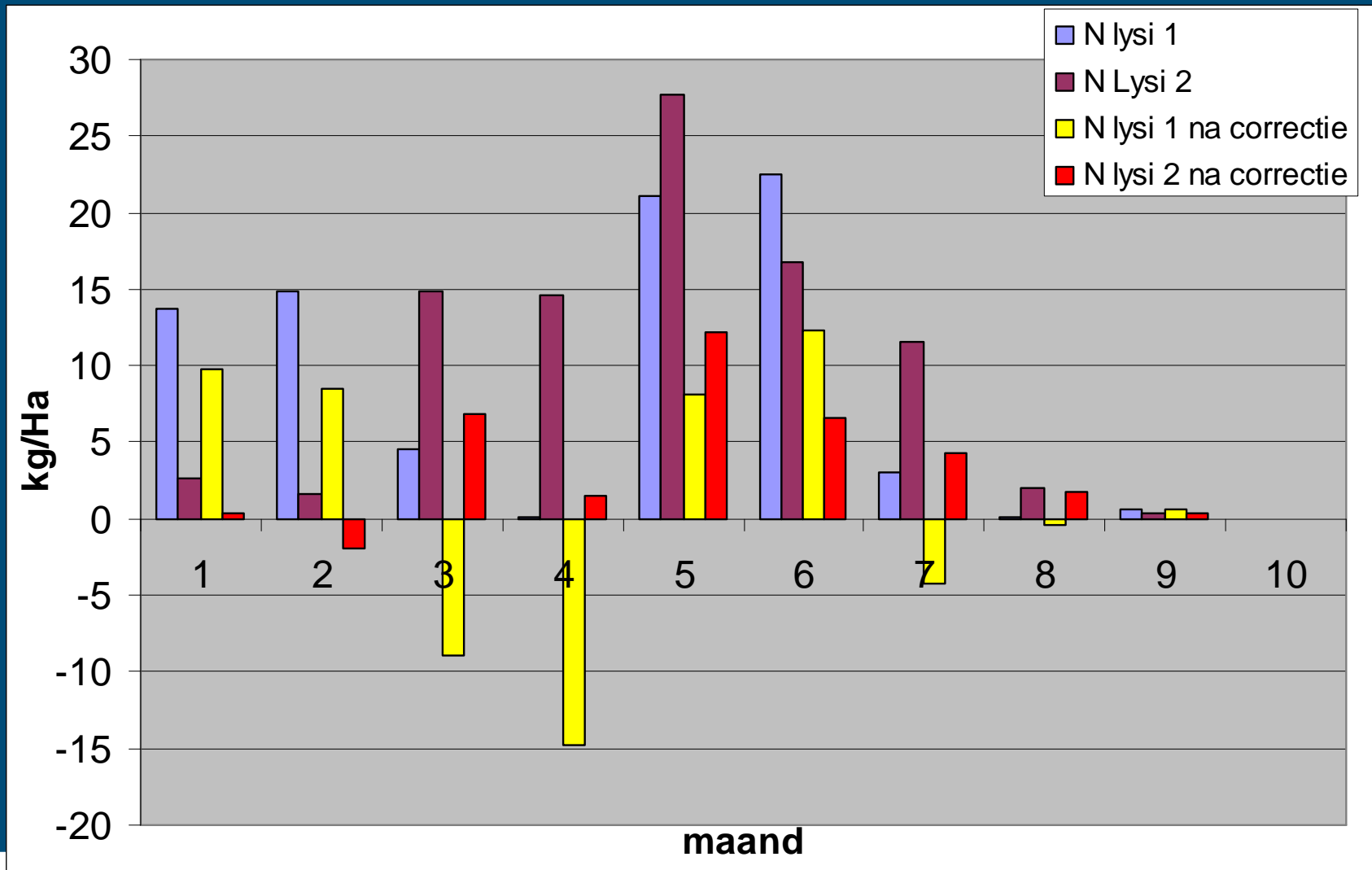


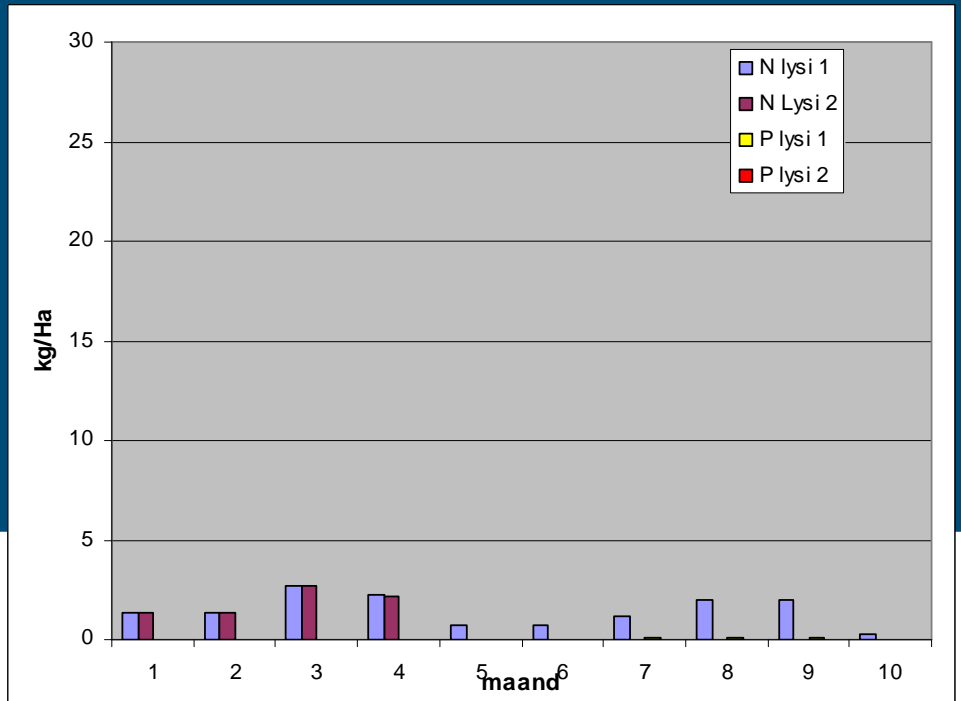
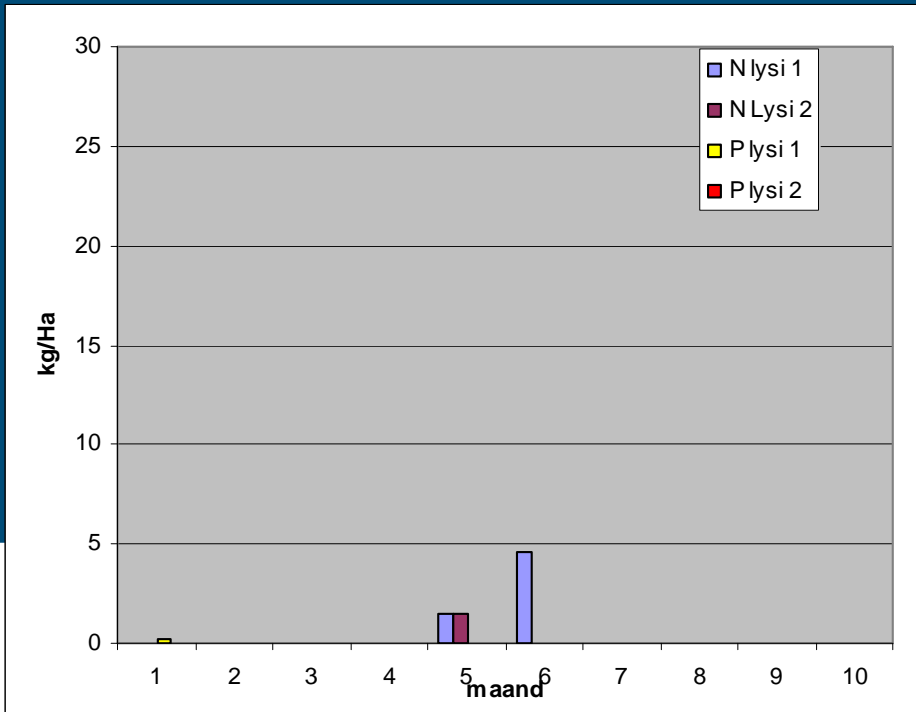
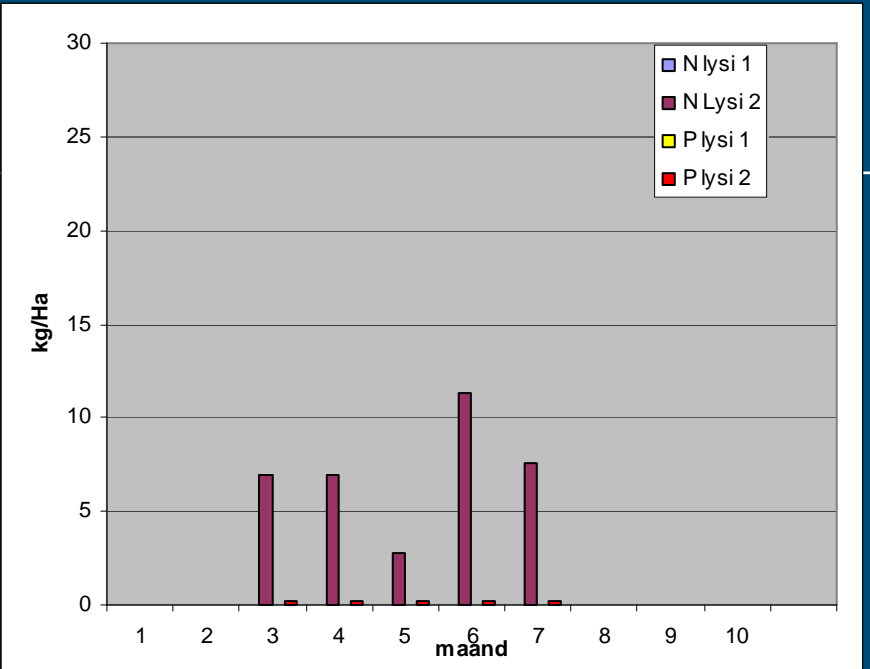


WAGENINGEN UR

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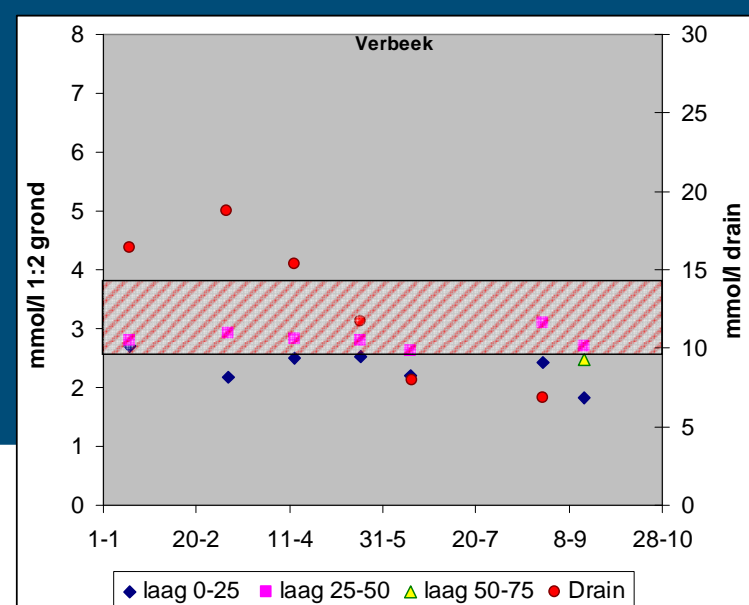
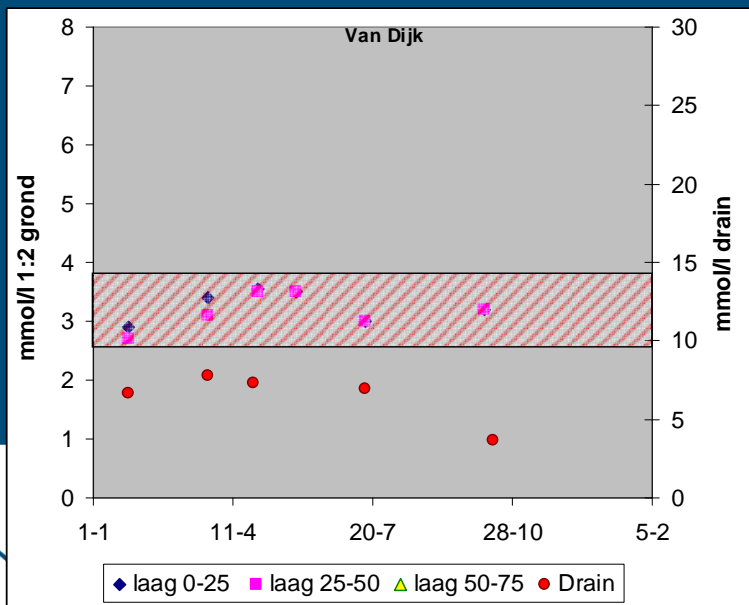
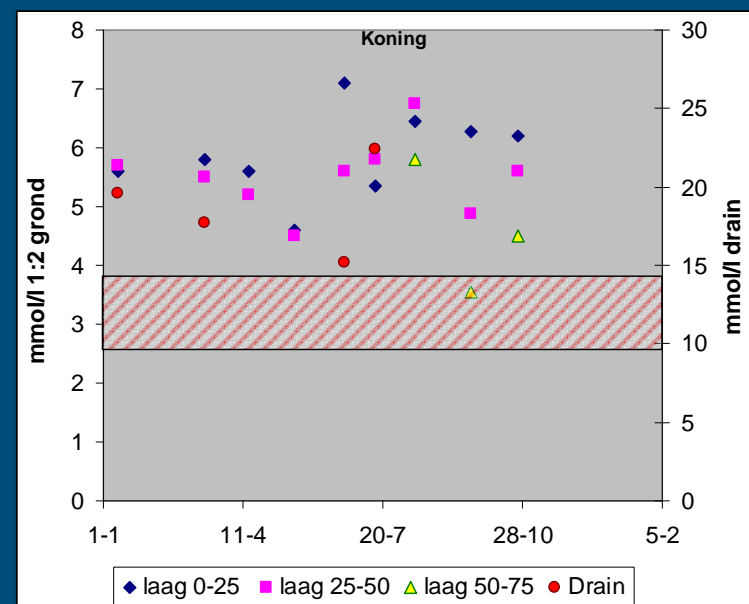
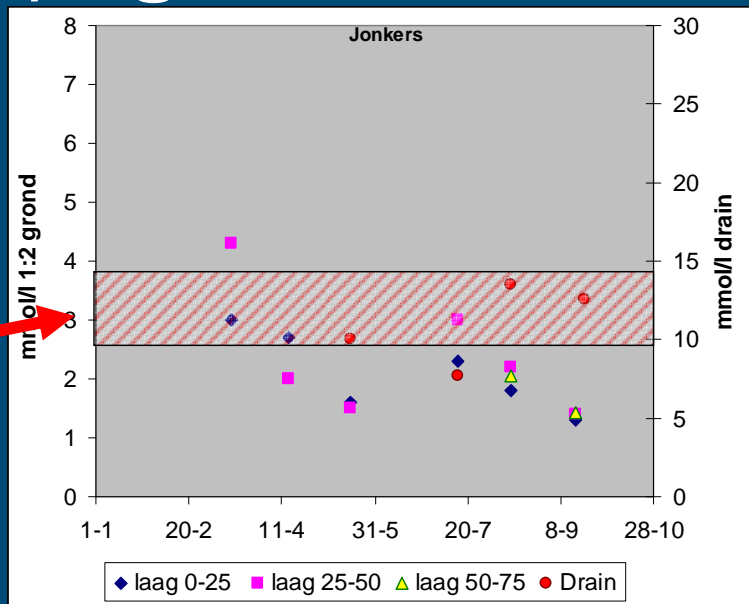
# Kortom...

- Watergift is meestal goed afgestemd op gewasvraag
- Beregeningsoverschot is beperkt, of zelfs negatief (dus een beregeningstekort = capillaire aanvoer)
- (gecorrigeerde-) drain lysimeters weinig tot 0
- Uitspoeling N gering of 0
- Uitspoeling P verwaarloosbaar klein

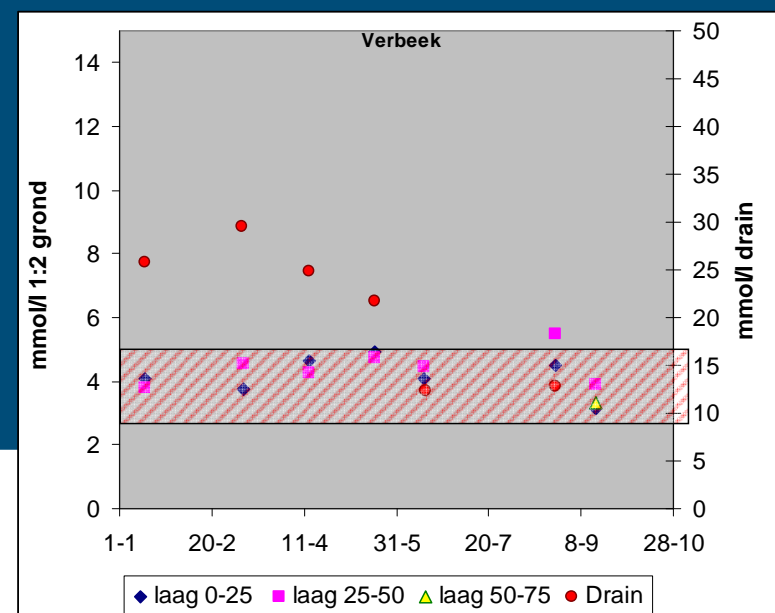
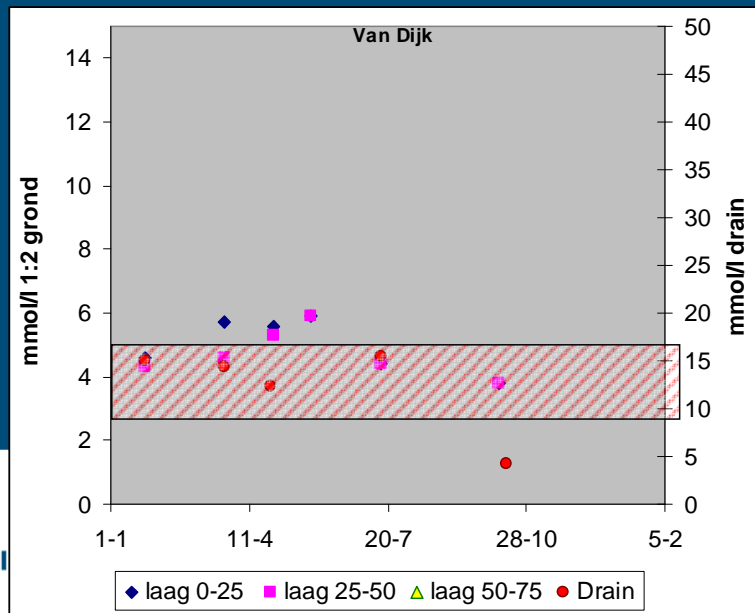
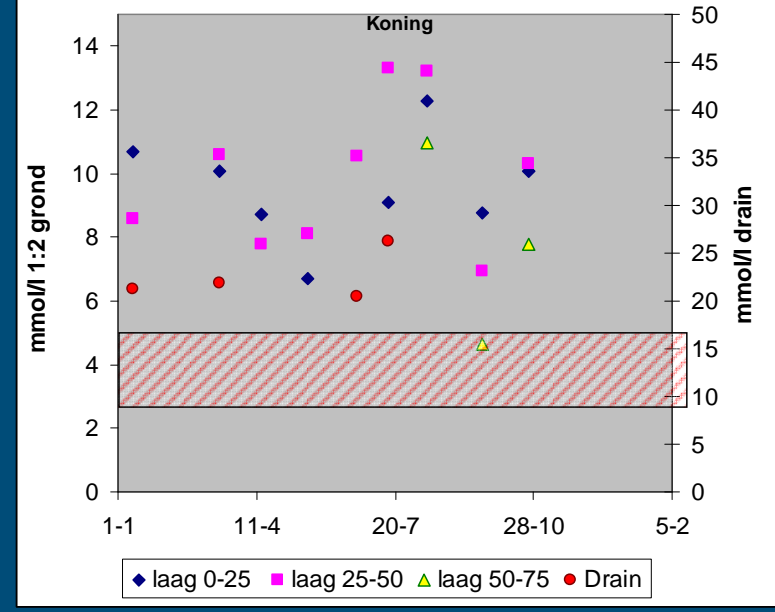
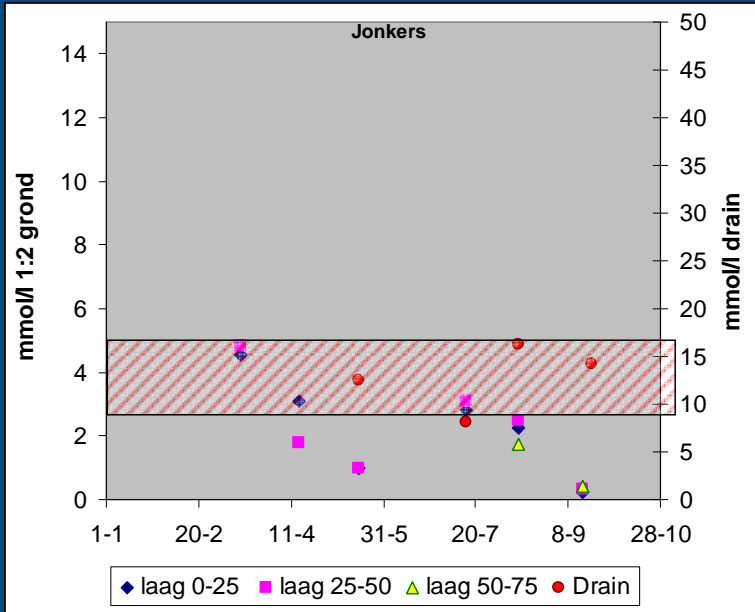


# Na ophoping in bodem, situatie 2010

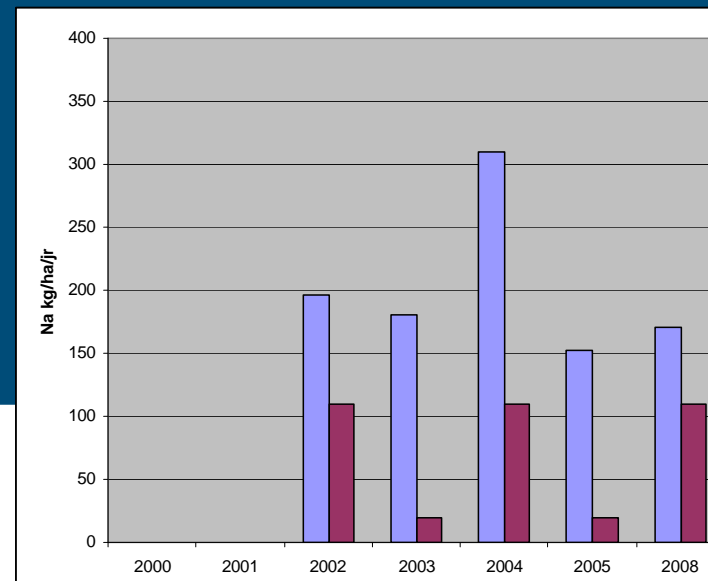
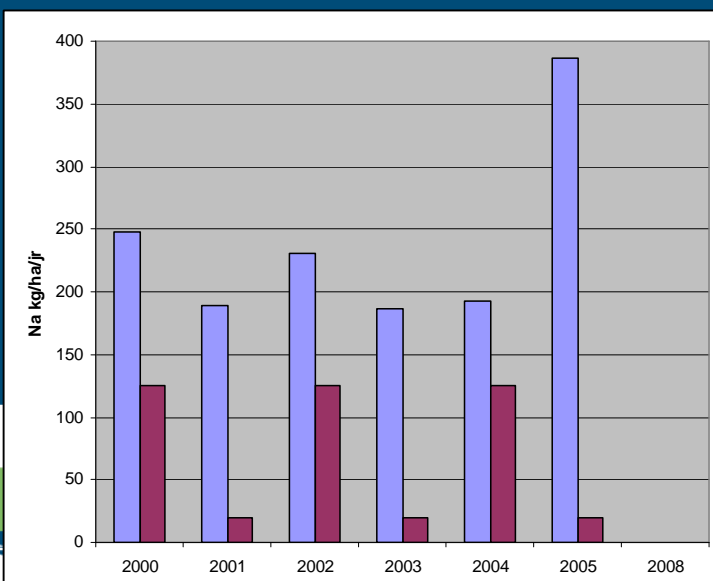
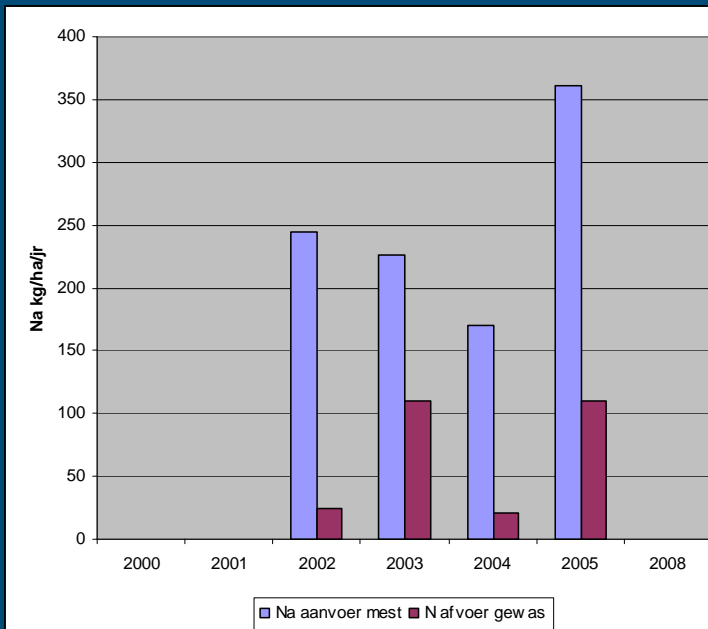
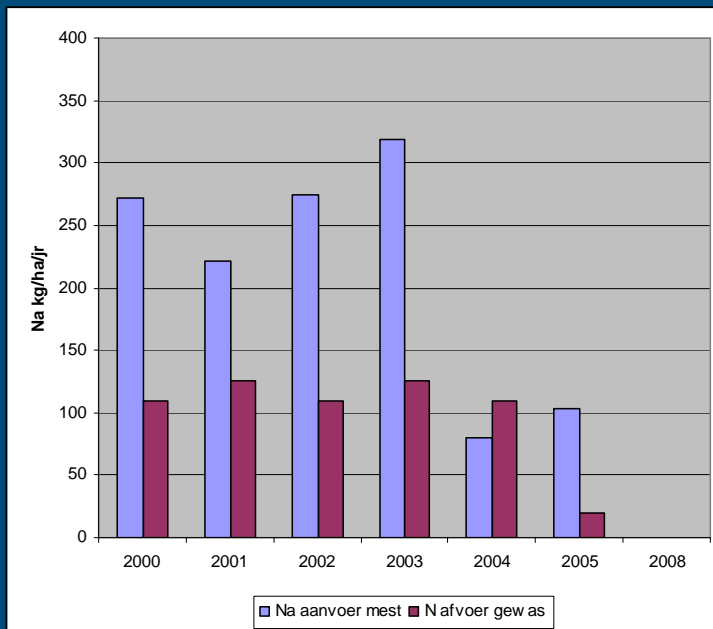
Na  
grensgebied



# S04 toestand



# Na balans op 4 bedrijven 2002 - 2008



# Conclusie

## Bioteelten:

- N en P uitspoeling / emissie laag
  - Emissienormen geen knelpunt
- Zoutaccumulatie, probleem individuele bedrijven, structureel probleem alle bedrijven

# Speerpunten voor het onderzoek

- Emissie onderzoek
  - Huidig KRW project
  - Voortzetting emissie monitoring + mineralenbalans
- Verzoutingsproblematiek
  - Alternatieve inputs laag in Na, SO<sub>4</sub>
  - Na accumulerende gewassen
  - Uitspoelingsonderzoek
  - “slim” uitspoelen (bij te verwachten laag N)