

Wensum DTC Mitigation Measures: 2015/16

Pesticides - Biobed | Nitrates - Cover Crops



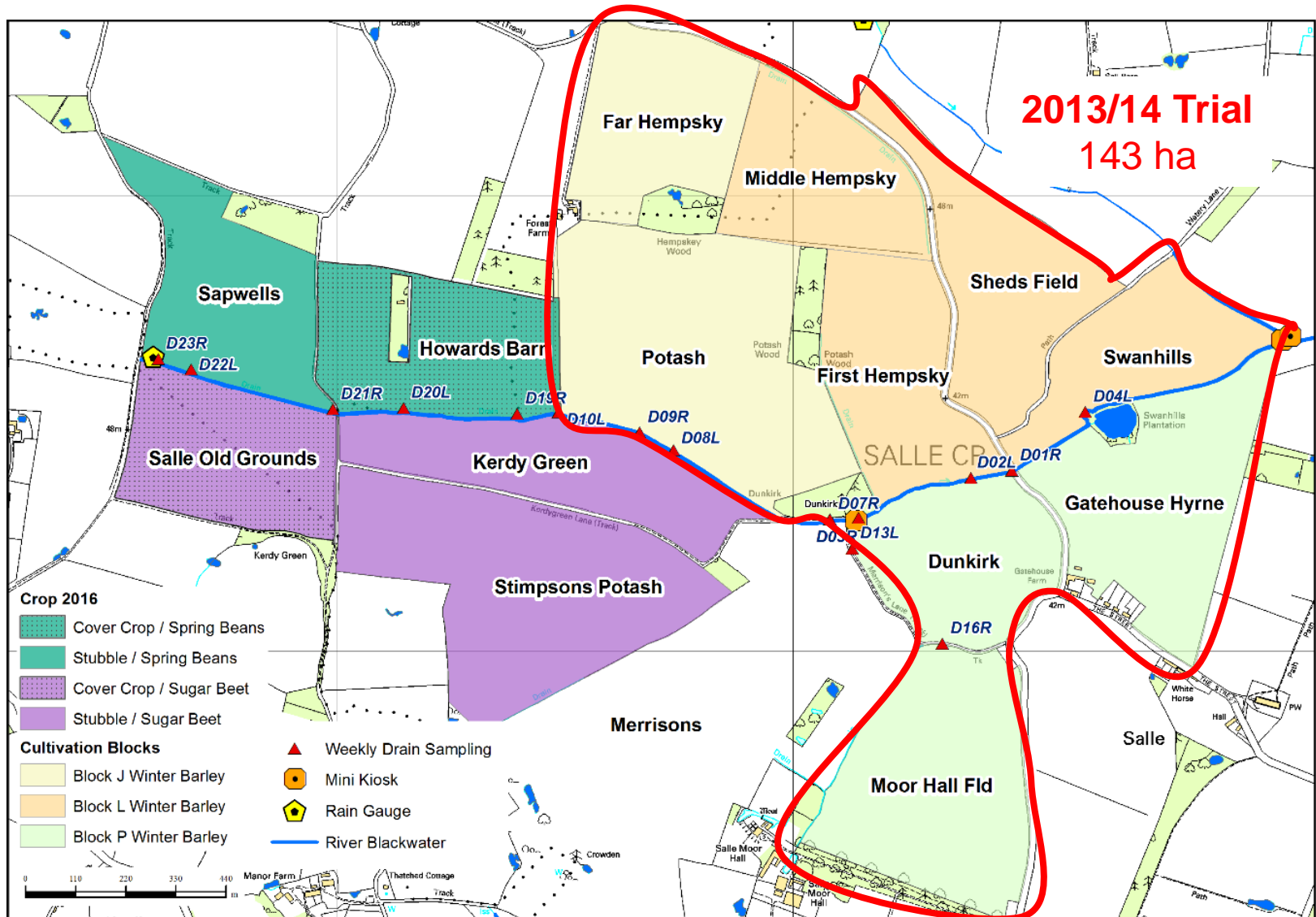
UEA University of East Anglia



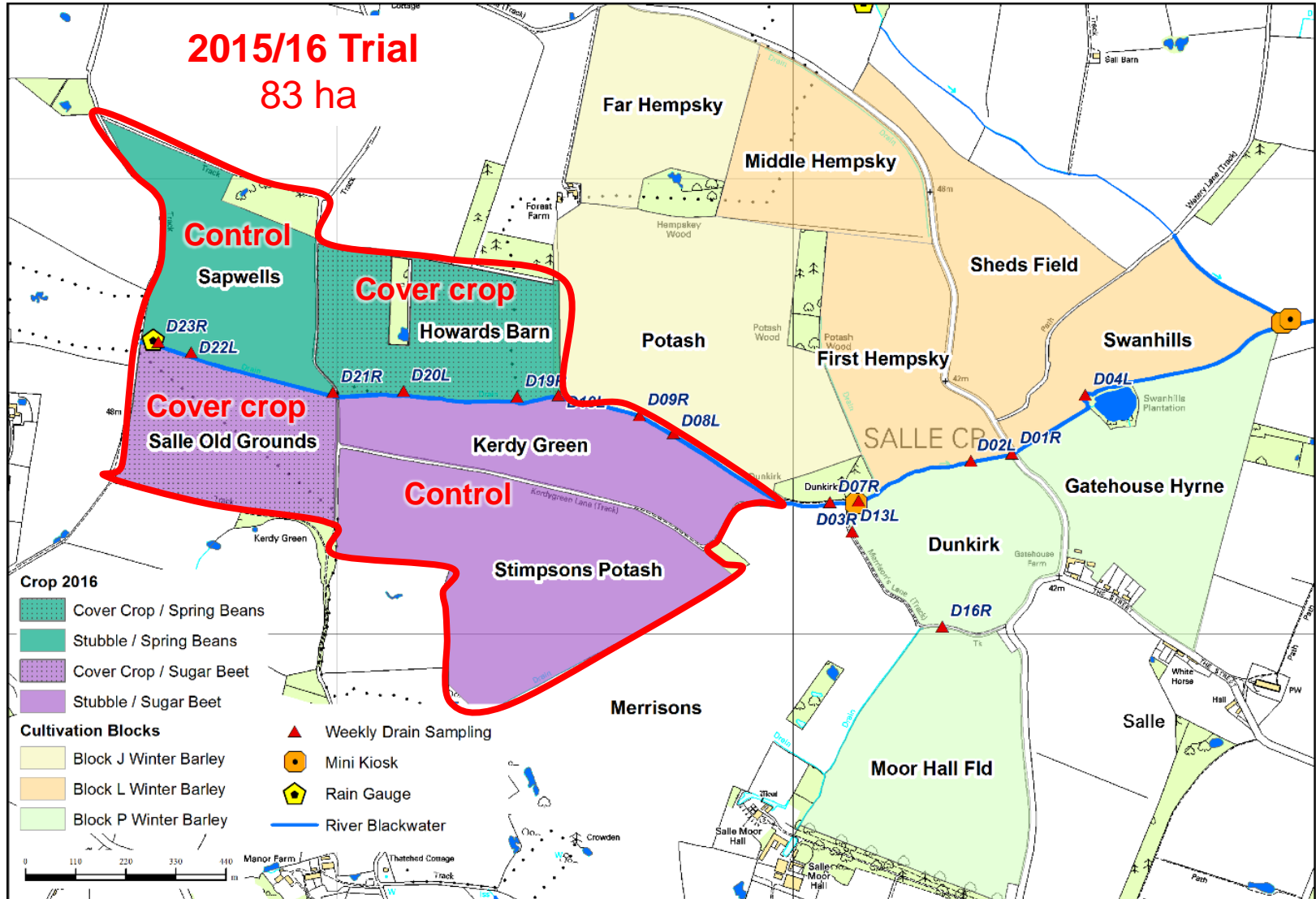
Demonstration
Test
Catchments

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Second Cover Crop Trial



Second Cover Crop Trial



Cover Crop Fields: 3rd December 2015

Salle Old Grounds



Oilseed radish/rye mix (85 seeds/m²)



with turkey muck



without turkey muck

Howards Barn

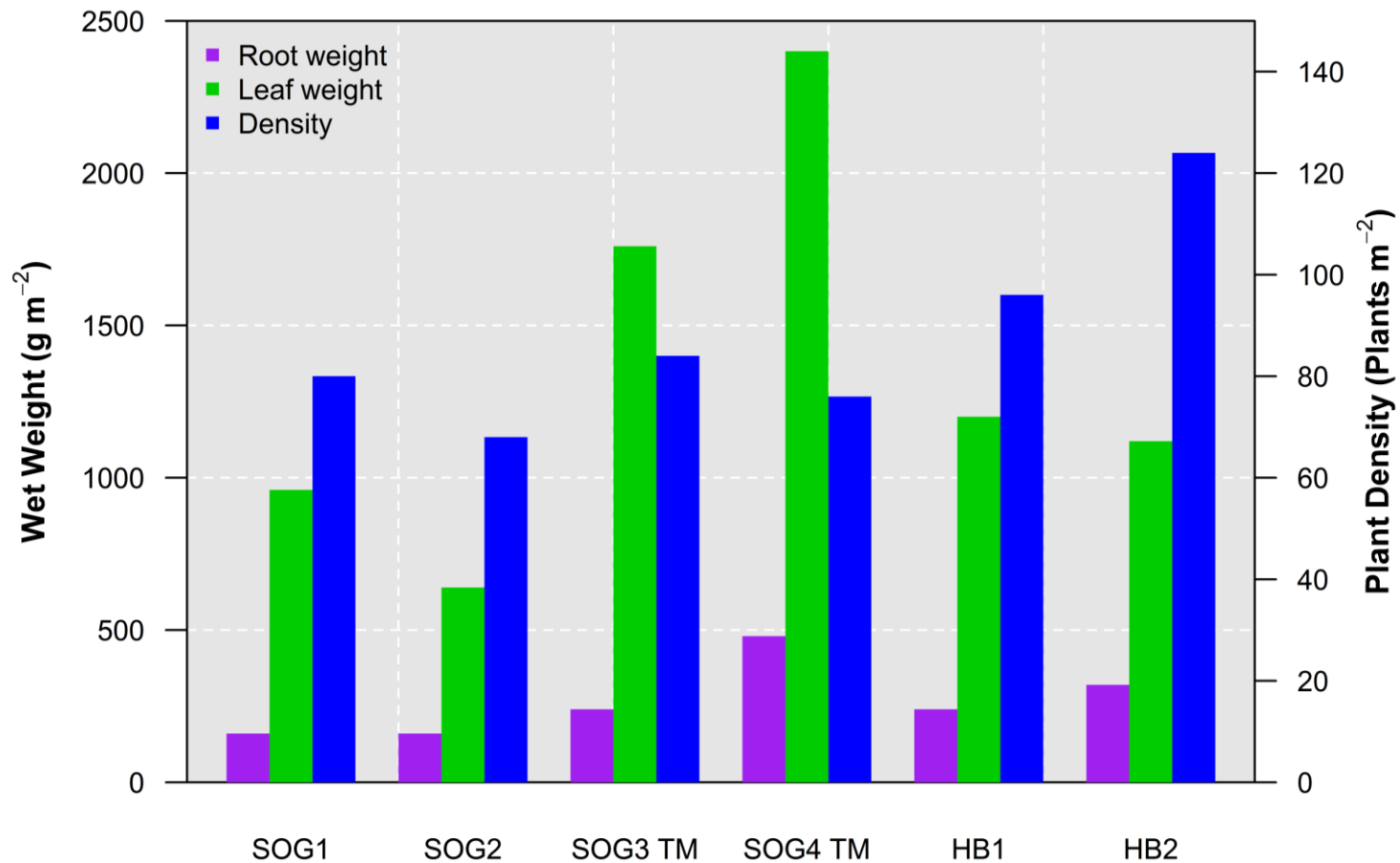


Oilseed radish (165 seed/m²)

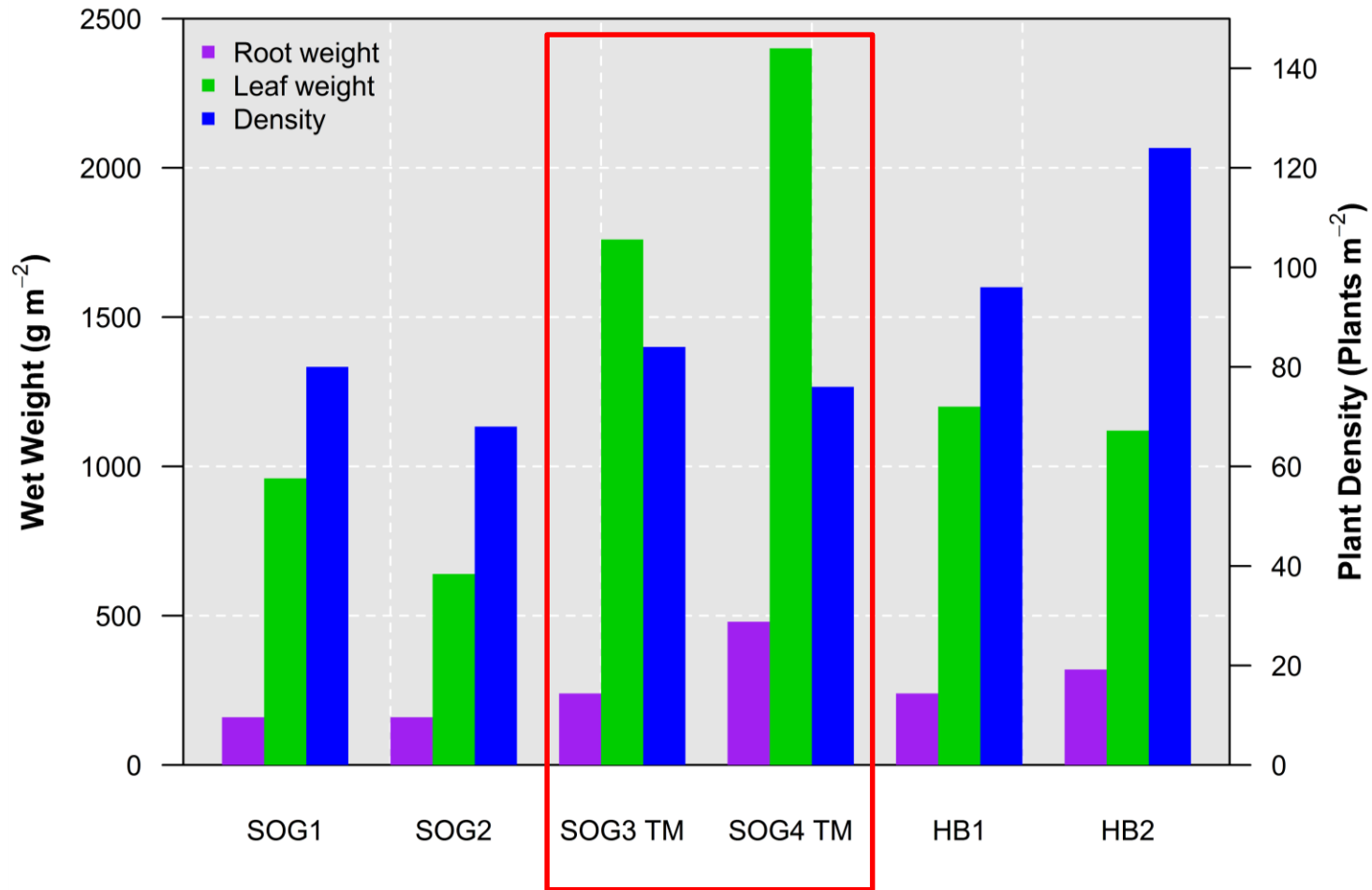


without turkey muck

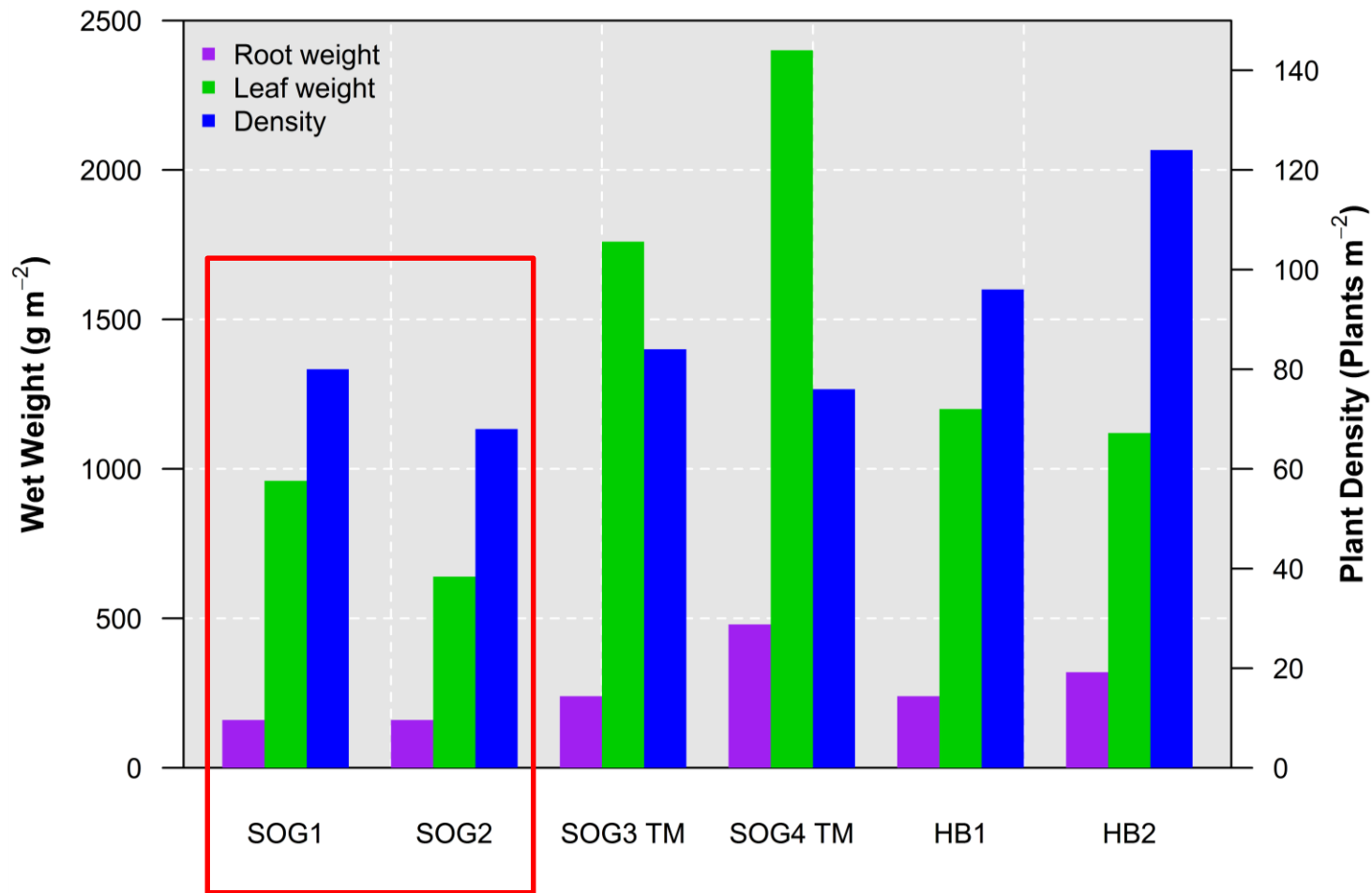
Oilseed Radish Biomass: December 2016



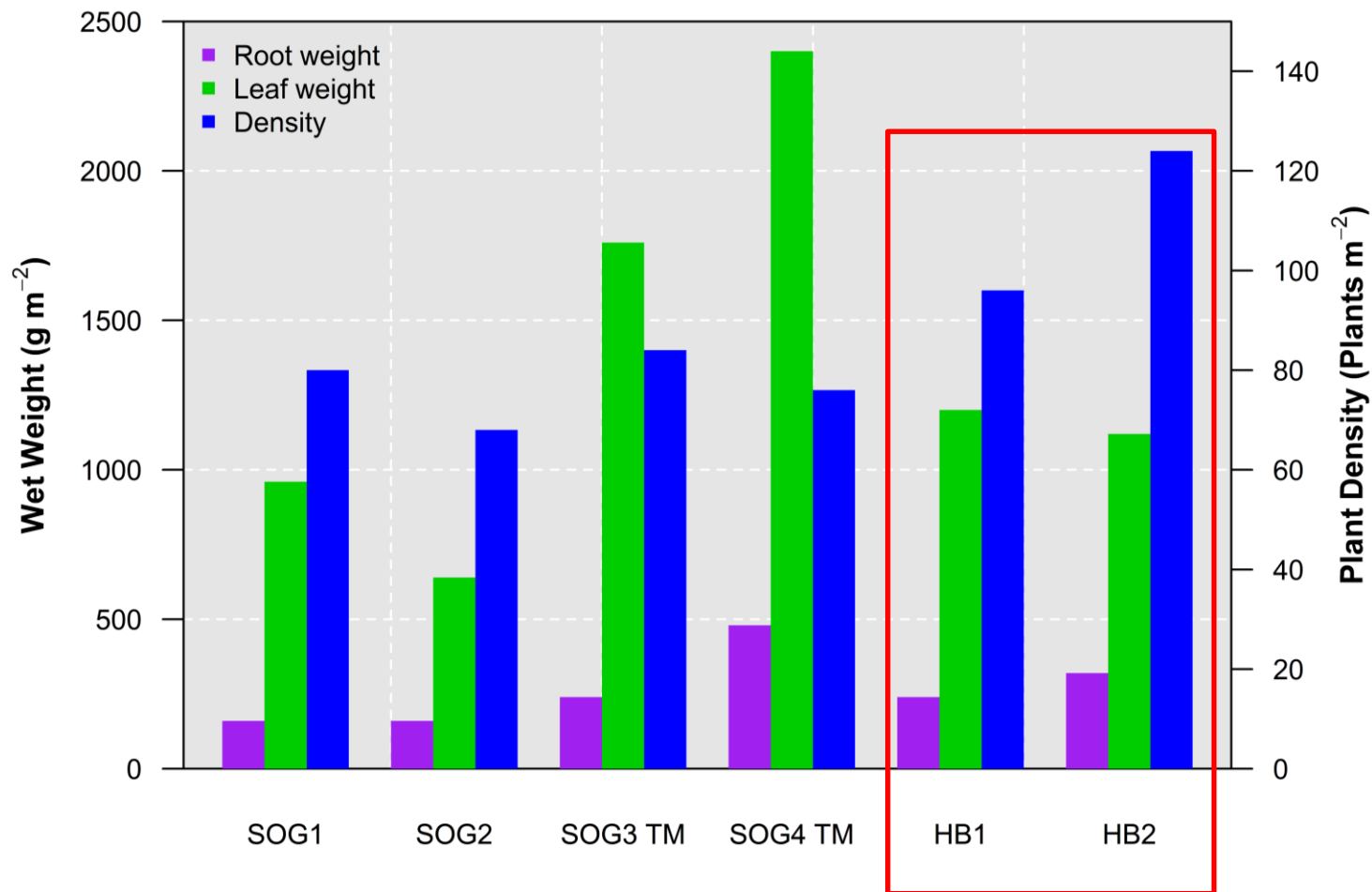
Oilseed Radish Biomass: December 2016



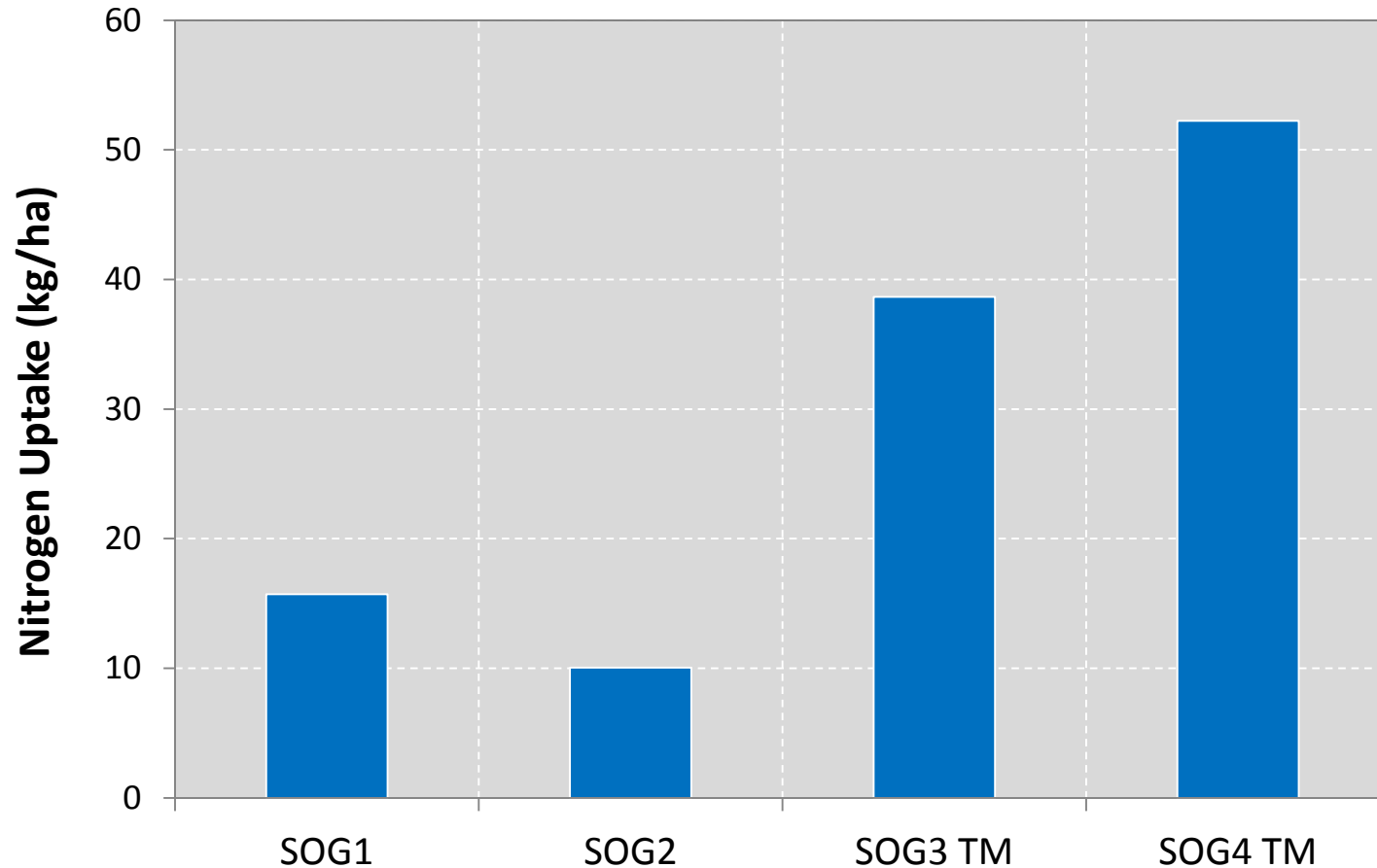
Oilseed Radish Biomass: December 2016



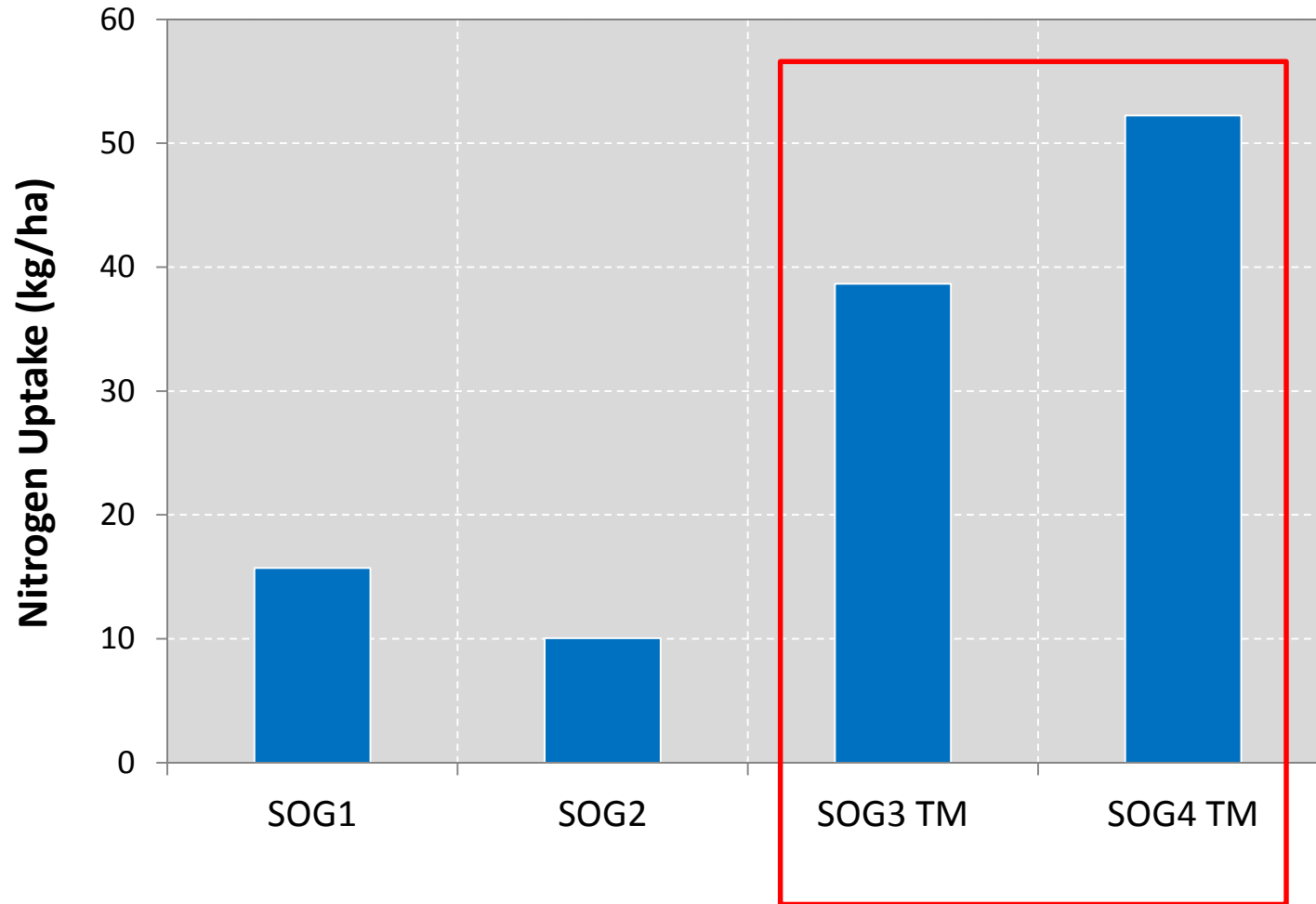
Oilseed Radish Biomass: December 2016



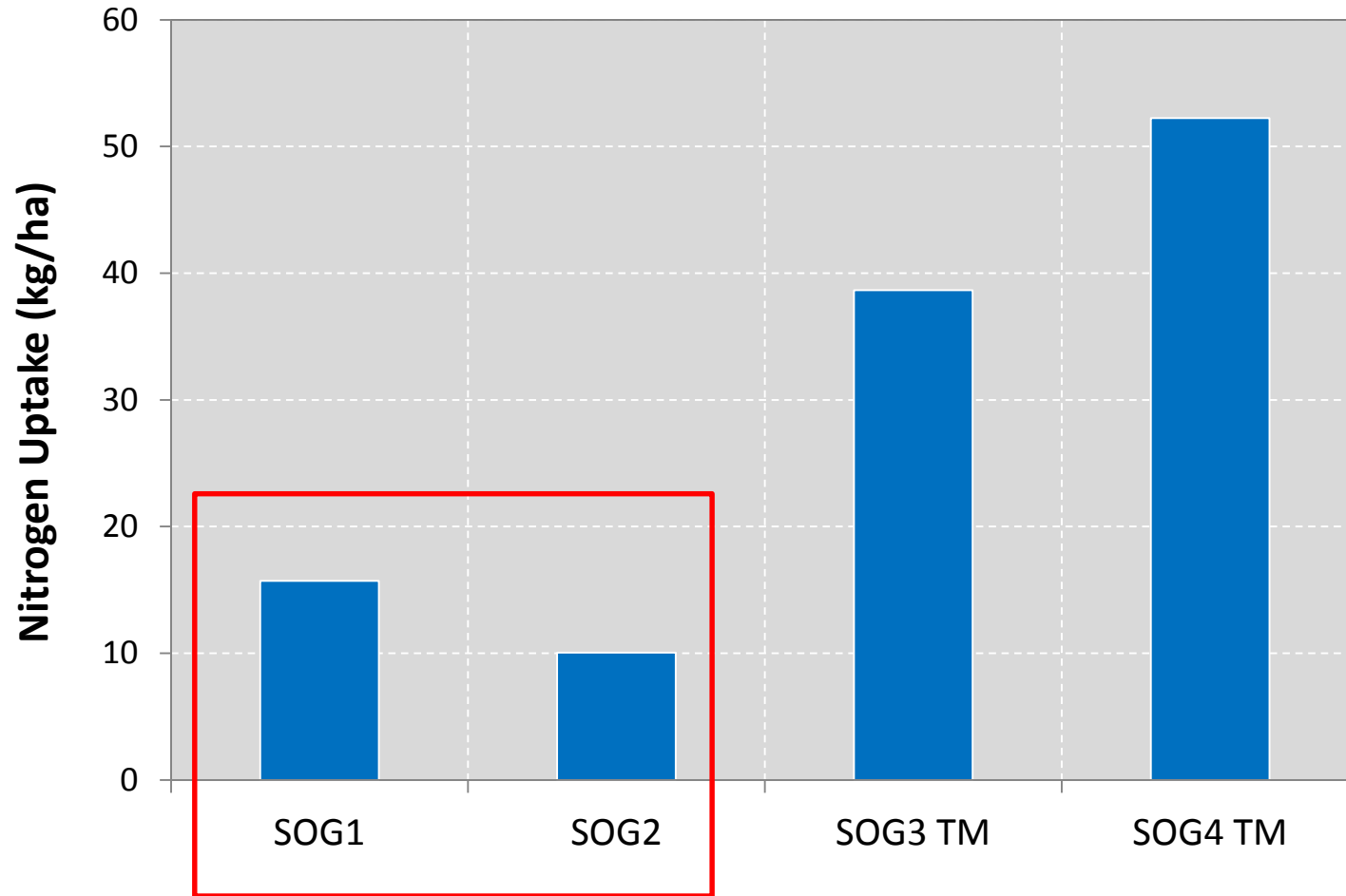
Oilseed Radish N Uptake: December 2016



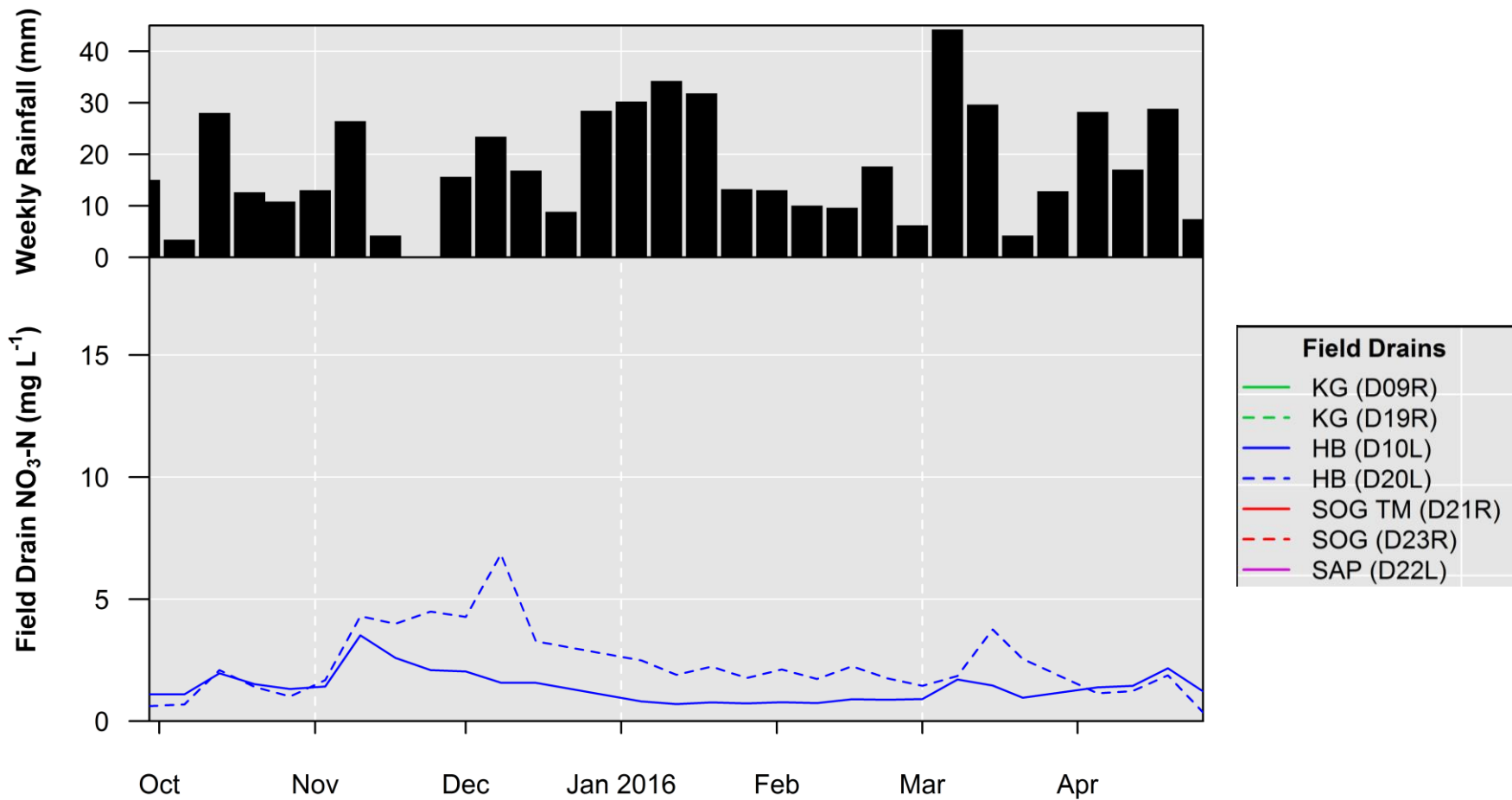
Oilseed Radish N Uptake: December 2016



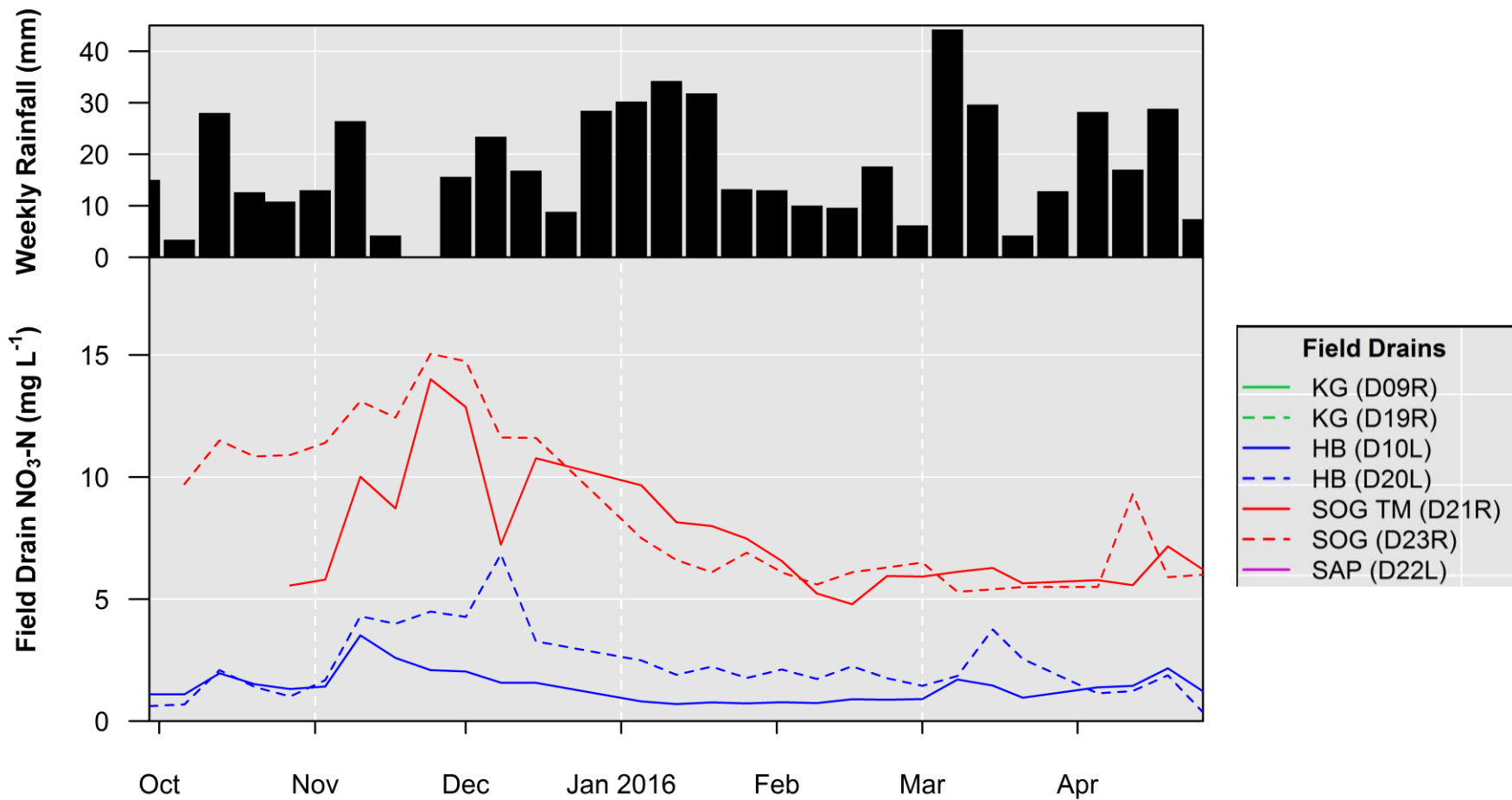
Oilseed Radish N Uptake: December 2016



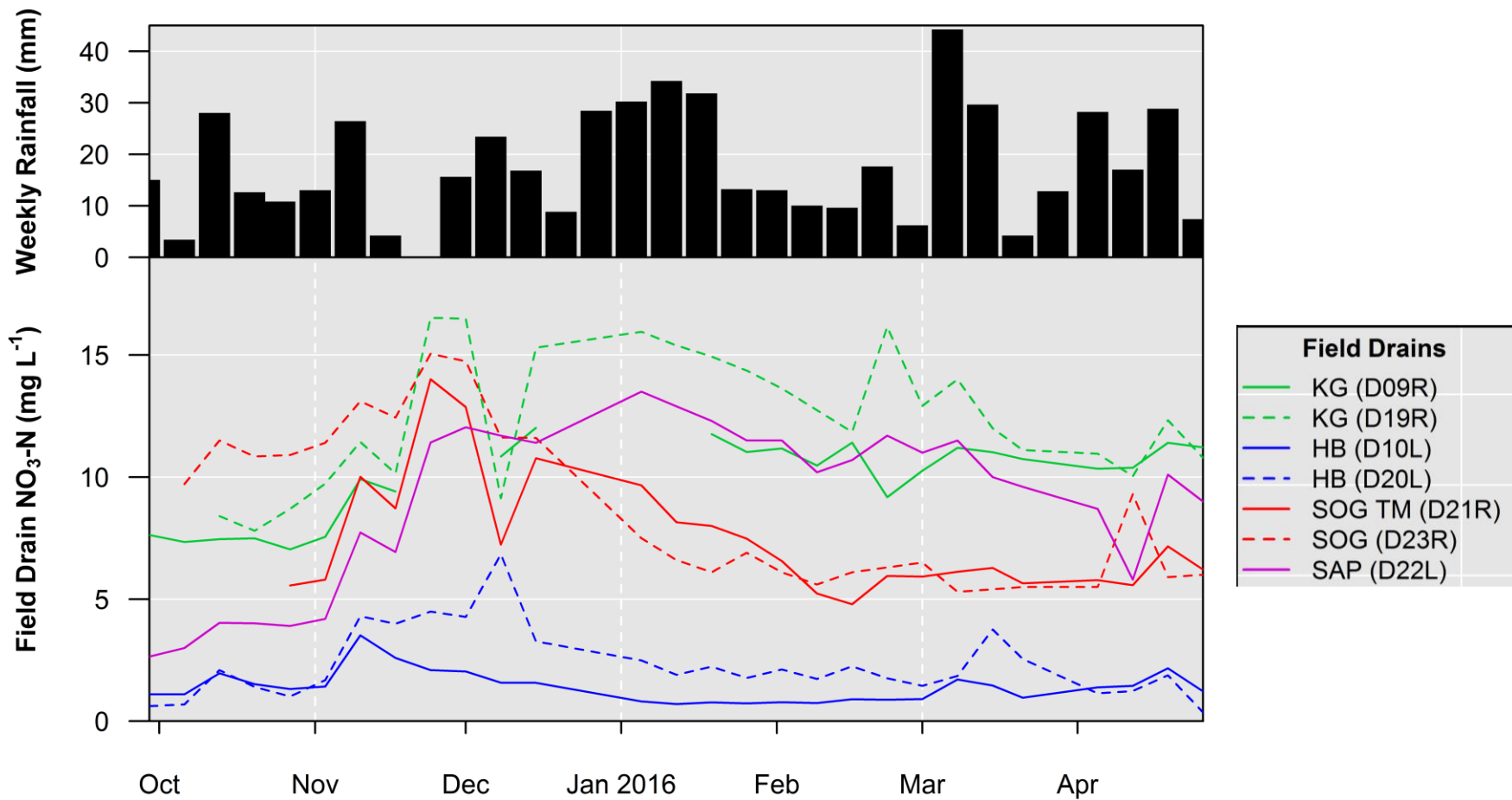
Field Drain Nitrate Concentrations: Winter 2015/16



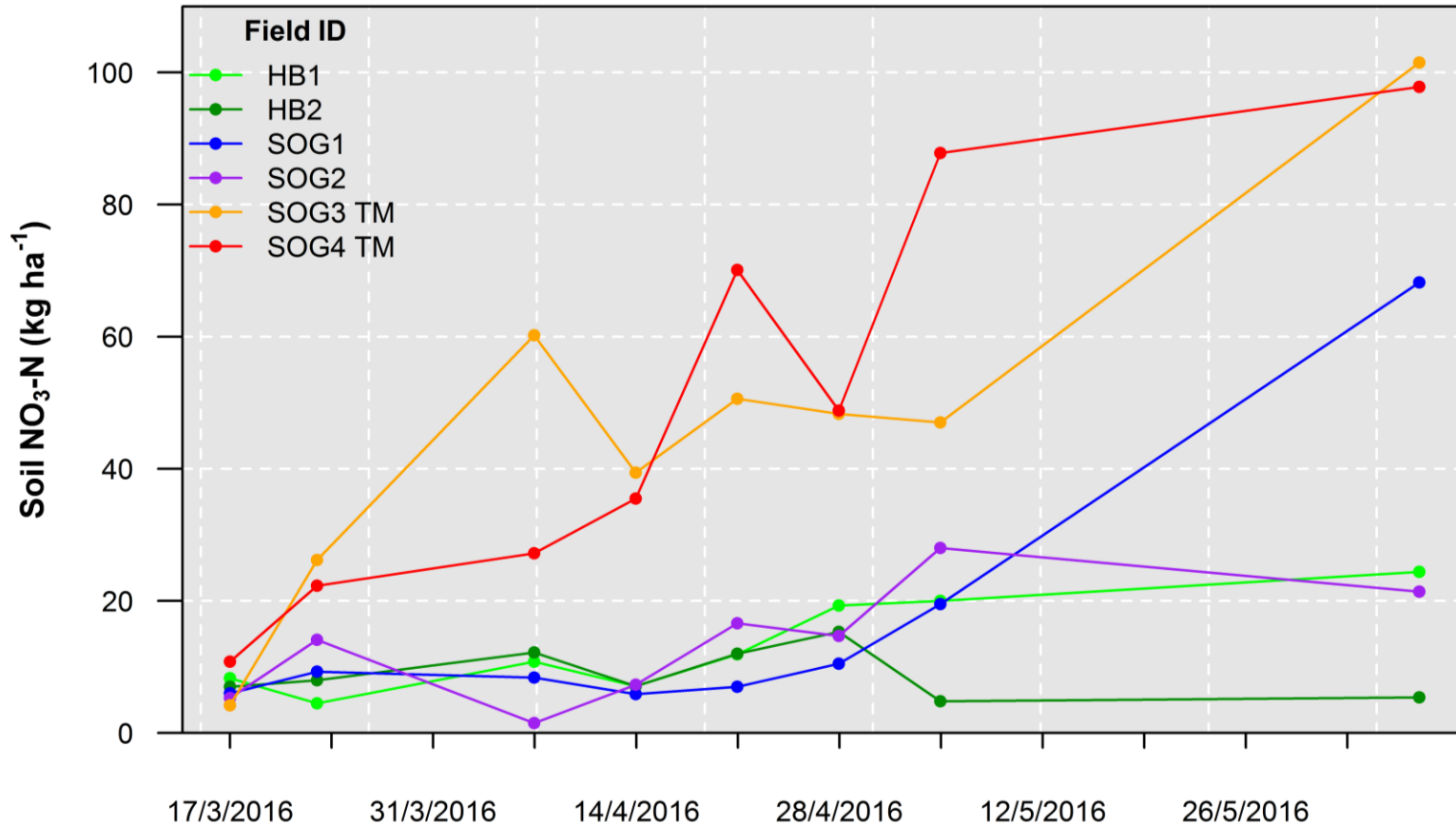
Field Drain Nitrate Concentrations: Winter 2015/16



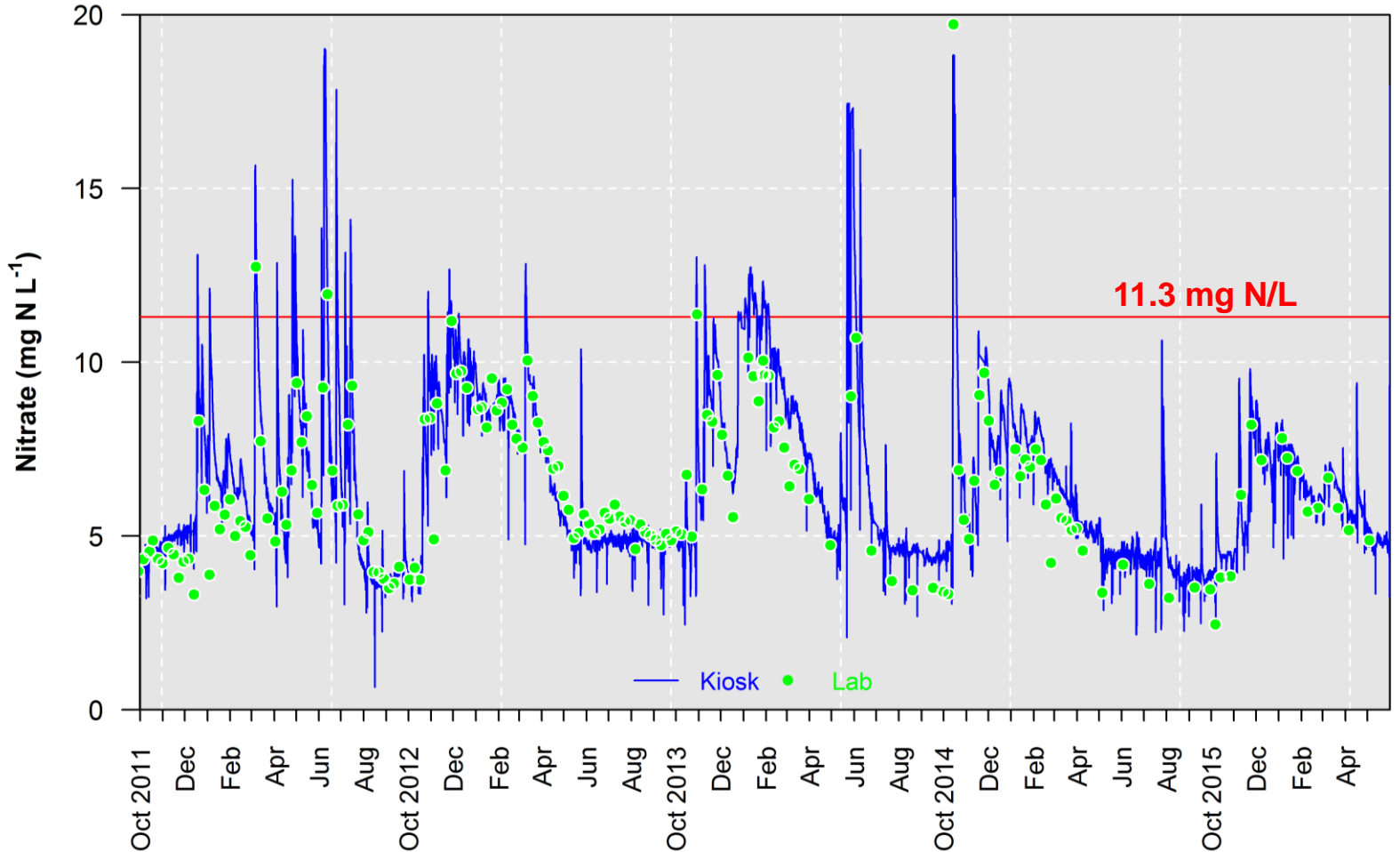
Field Drain Nitrate Concentrations: Winter 2015/16



Soil Nitrate Concentrations: Spring 2016



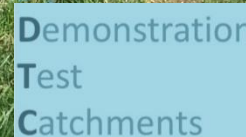
Trends in Riverine Nitrate: 2011 - 2016



Mitigation measures

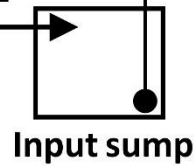
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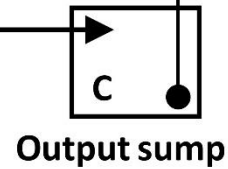
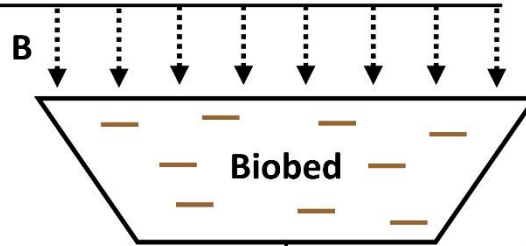
Manor Farm Biobed, Salle

Stage 1



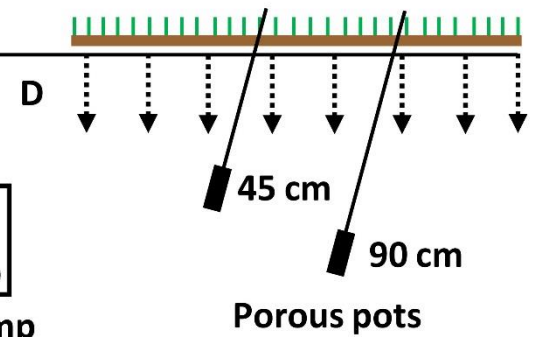
Stage 2

Biobed trickle irrigation



Stage 3

Drainage field trickle irrigation



Stage 1: Wash-down area



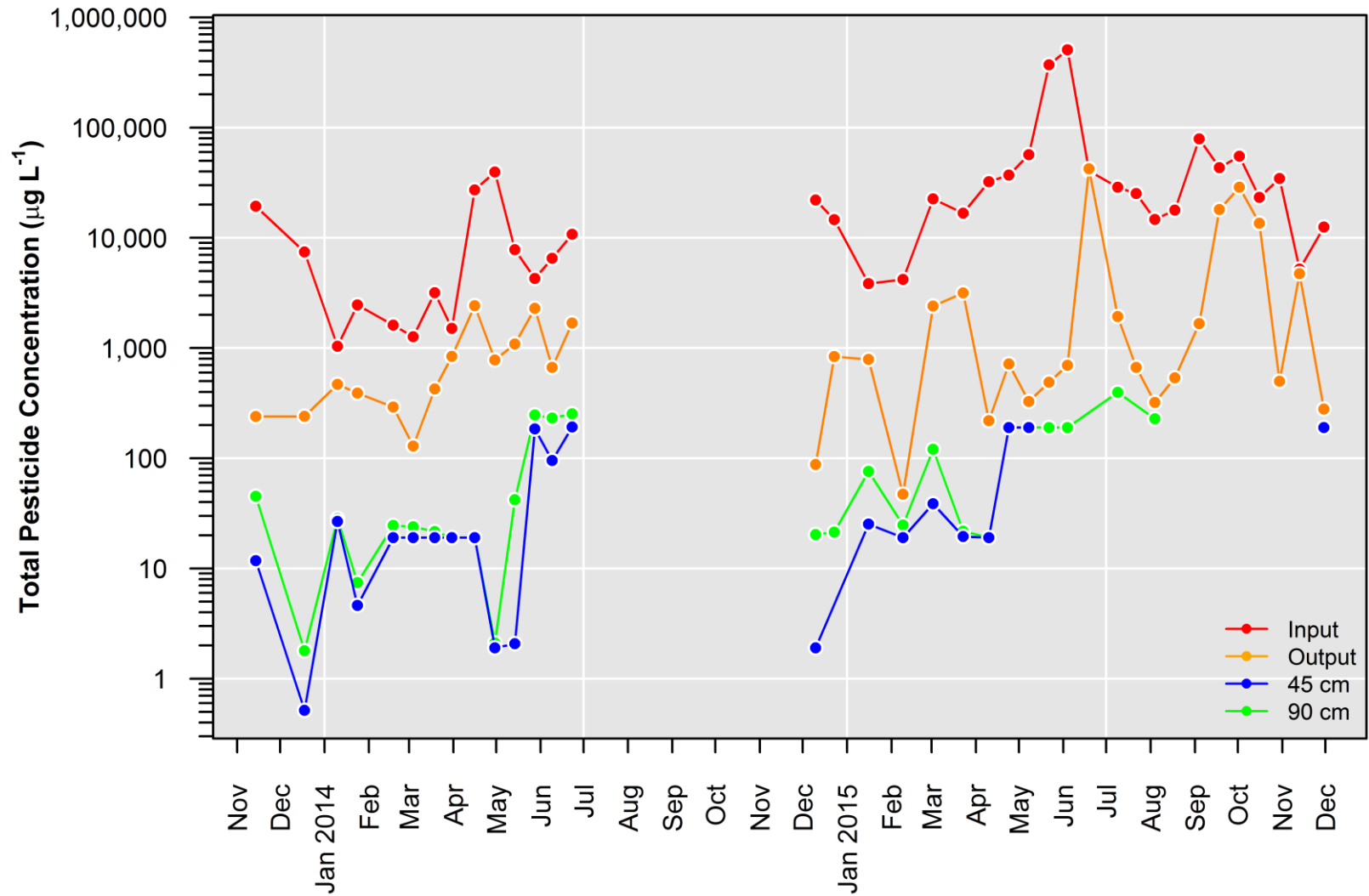
Stage 2: Biobed & Sumps



Stage 3: Drainage Field



Total Pesticide Concentrations



Pesticide Removal Efficiency

Pesticide	Biobed Sump			Porous Pot			
	Mean Concentration ($\mu\text{g L}^{-1}$)			Mean Concentration ($\mu\text{g L}^{-1}$)			
	Input	Output	Efficiency (%)	45 cm	Efficiency (%)	90 cm	Efficiency (%)
Propyzamide	2551.3	60.0	97.6	-	-	-	-
Chloridazon	2547.7	81.9	96.8	-	-	-	-
Triclopyr	958.5	32.8	96.6	1.2	96.3	2.5	92.4
Ethofumesate	26935.1	980.9	96.4	-	-	-	-
Chlorotoluron	150.4	6.9	95.4	-	-	-	-
Bromoxynil	167.3	11.3	93.2	1.1	90.3	1.6	85.8
2,4-D	2944.9	213.7	92.7	2.2	99.0	6.5	97.0
Mecoprop	803.7	112.7	86.0	3.0	97.3	6.6	94.1
MCPA	30.4	4.8	84.2	1.1	77.1	1.6	66.7
Fluroxypyr	1162.0	224.6	80.7	9.3	95.9	16.0	92.9
Dicamba	223.5	43.8	80.4	9.1	79.2	13.9	68.3
Carbetamide	15.3	3.0	80.4	-	-	-	-
Clopyralid	1025.5	238.1	76.8	5.5	97.7	16.2	93.2
Metsulfuron-methyl	32.9	8.1	75.4	-	-	-	-
Metazachlor	5561.0	1754.9	68.4	-	-	-	-





Contents lists available at ScienceDirect

Journal of Environmental Management

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Research article

Assessing the effectiveness of a three-stage on-farm biobed in treating pesticide contaminated wastewater

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ARTICLE INFO

ABSTRACT

