

30. PLANET

FAIRWAY partner: Fiona Nicholson (ADAS, UK)



Brief description

PLANET (Planning Land Applications of Nutrients for Efficiency and the environment) is a nutrient management decision support tool for use by farmers and advisers in England/Wales and Scotland for field level nutrient planning and for assessing and demonstrating compliance with the Nitrate Vulnerable Zone (NVZ) rules.

Contaminants covered (e.g. nitrate, pesticides etc.)	Nitrate (nutrients)
Intended end users (e.g. farmer, water quality manager, policy maker)	Farmers and advisors
Level of expertise and/or training required	Some experience needed to use the software but extensive help and information is available (see below)
Geographical resolution (e.g. field, catchment, national)	Field and farm scale.
Temporal resolution (e.g. daily, annual, long-term).	Annual
Real-time component (e.g. live weather data, soil moisture data feeds etc.)	None
Number and type of mitigation measures included	None
Platform (e.g. paper-based tool, phone app, bespoke software).	Bespoke software (in English only) can be downloaded from the following website: http://www.planet4farmers.co.uk
Frequency of updates	Most recent version v3.3 (August 2014). Last update November 2016 – no further updates currently planned..
Cost/availability	Free to download or on DVD
Number of users or number of copies distributed/downloaded/purchased	Over 18,000 users
Links to demo material and other relevant information (e.g. user guides).	Tutorials and help (in English) available at http://www.planet4farmers.co.uk/Content.aspx?name=Tutorials A dedicated Helpdesk for users is provided.
Additional comments	PLANET incorporates the ADAS MANNER software. The PLANET code is publically available and has been incorporated into commercial software packages such as Gatekeeper and Greenlight.

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Input data required to run the DST	Data inputs depend on the module being used and include farm details, livestock type and numbers, cropping, soil analysis, fertiliser and manure applications, capacity and surface area of manure stores, rainwater collection area, volume of wash water, area of low runoff risk land,	
Outputs (including links to water quality and economic or financial aspects)	At the end of the season, details of actual cropping, soil analysis, organic manure and nutrient/lime applications to each crop are recorded and can be used to generate next year's RB209 recommendations which can be used as the basis for developing a nutrient application plan for each field. Estimates are produced of manure quantities from different sources and their financial value, and an estimate of the NVZ minimum storage capacity requirement. Outputs do not directly link to water quality. All PLANET reports can be viewed and printed.	
Age/provenance of supporting data used to develop the DST	Based on the Defra Fertiliser Manual (RB209) and the ADAS MANNER software.	
Country-specific calibration or data requirements (including restrictions on use)	Based on the UK RB209 fertiliser recommendations and UK NVZ regulations. Not possible to modify without extensive work.	
Details of validation and testing	No information	
Date developed/released (or planned release date)	Version 3.3 released in 2014.	
Author/developer names and affiliations	ADAS and SRUC	
Member state(s) where developed	UK	
Member State(s) where currently used	UK (England, Wales and Scotland)	
Key publication references (including url)	M.M. Gibbons, C.P. Fawcett, R.J. Waring, K. Dearne, P.M.R. Dampney, S.J. Richardson (2005). PLANET Nutrient Management Decision Support System – a Standard Approach to Fertiliser Recommendations. EFITA/WCCA 2005, Vila Real, Portugal. http://www.informatique-agricole.org/download/efita-conference/Congres_EFITA_2005/PA190%20-%20Gibbons.pdf	

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Any other useful information (e.g. screenshots of DST input/outputs)

Farm details data entry screen

PLANET - Organic Manures Inventory and Storage from October 2010

File View Units Tools Library Help

Farm Details

Farm name: Farmer's name:

Farm address: Business name:

Postcode: Single Business Identifier (SBI):

CPH number: Telephone:

Farm STD code: Mobile:

Farm average annual rainfall (mm): Email:

Total farm area (ha): Average altitude (m):

Registered organic producer?: ☐

Field Details

Field name	National Grid number	Other ref	Field area (ha)	Cropped area (ha)	Manure non-spreading area (ha)	Soil type	K releasing clay	NVZ Action Programme
*								

Current file: Taylors Farm (PE 7 June).indb

PLANET version 3 (England & Wales) | Current Units: Metric

Manure storage data entry screen

PLANET - Organic Manures Inventory and Storage from October 2010

File View Units Tools Library Help

Manure Stores **Livestock Details** **Wash Water** **Imports and Exports** **Low Flow-off (Risk Land)** **Inventory** **NVZ Minimum Storage**

Inventory for 12 months starting October 2010 Annual rainfall 550 mm

Farm area: ha

Area of farmed land in an NVZ: ha

Area of farmed land not in an NVZ: ha

Slurry stores

Capacity of slurry stores: m³

Surface area of uncovered slurry stores: m²

Dilute water stores

Capacity of dilute water stores: m³

Surface area of uncovered dilute water stores: m²

Solid manure stores on an impermeable base or in poultry houses

Capacity of solid manure stores: tonnes

Rainwater collection areas

Area of fouled open concrete, uncovered solid manure stores, sludge clamps, etc. draining to slurry stores: m²

Area of clean concrete and roofs draining to slurry stores: m²

Area of fouled open concrete, uncovered solid manure stores, sludge clamps, etc. draining to dilute water stores: m²

Area of clean concrete and roofs draining to dilute water stores: m²

Nutrient prices

	pence/kg	£/t
Nitrogen (N)	60	207
Phosphate (P2O5)	50	230
Potash (K2O)	55	330
Ammonium nitrate (34.5% N)		207
Triple superphosphate (46% P2O5)		230
Mulate of potash (80% K2O)		330

Current profile: Taylors Farm (PE 7 June).indb

PLANET version 3 (England & Wales) | Current Units: Metric

Livestock manure N farm limit results screen

PLANET - Livestock Manure N Farm limit for calendar year 2010

File View Units Tools Library Help

Farm Details

Calendar year: 2010 Does the farm have derogation: No

Area of farmed land in an NVZ: ha Permitted livestock manure total N capacity: kg N/yr

Area of farmed land not in an NVZ: ha

Total area of farmed land: ha

Livestock Details **Imports and Exports** **NVZ Compliance**

Description	Area (ha)	Manure total N (kg/yr)
Area and livestock manure total N capacity		
Area of holding in an NVZ	80.00	13,600.00
Area of holding not in an NVZ	76.00	5,000.00
Total	156.00	18,600.00
Livestock manure total N loading		
Home-produced livestock manures		
Grazing livestock		18,578
Pigs and poultry		0
Imported livestock manures		
Grazing livestock		0
Pigs and poultry		1,400
Exported livestock manures		
Grazing livestock		2,310
Pigs and poultry		0
Net total from grazing livestock		16,568
Net total from pigs and poultry		1,400
Compliance with N Farm Limit		
Livestock manure total N loading over the farmed area		18,058

Current file: PLANET England.indb

PLANET version 3 (England & Wales) | Current Units: Metric

Farmgate nutrient balance report

Farmgate nutrient balance

01/08/2009 to 31/08/2010

PLANET England

CPH Number:

Single business identifier:

Farm type: Mixed arable with dairy

Cropping

Cropping	Area (ha)
Arable	8.00
Grass	10.00
Permanent pasture	10.00
Other uncropped (wasteland)	10.00
Total farmed area	38.00

Milk production

Milk production	kg milk/ha
Statutory milk production	100

Imports

No. of units	Quantity (t or m ³ /ha/yr)	Nitrogen (N) (kg)	Phosphate (P2O5) (kg)	Potash (K2O) (kg)
Livestock				
1 dairy cow (30 months) and one pig	1	10	10	20
1 dairy heifer (replacement) 10 months	10	100	100	200
1 pig (30 months)	10	10	10	20
1 pig (140 kg live weight)	10	10	10	20
1 lamb (10 months)	10	10	10	20
Total	30	330	330	660

Report generated on 22 Jan 2010

PLANET version 3 (England & Wales)

Page 1 of 7