Tab. SM2 - Data fields for NitroEurope component 1 (field measurements) "Level 3" Super-sites.

Field	Unit
Annual data	
Mean_canopy_height, Max_Canopy_Height	m
Max_LAI	m^2 m^{-2}
Root_dry_biomass, Wood_dry_biomass	g m^{-2}
Aboveground_biomass	kg m^{-2}
Plant_Species_one	text
Plant_Species_two	text
Plant_Species_three	text
Plant_Species_four	text
Wood_increment, Leaf_litter_production	kg m^{-2}
Litter_fractions_depth, Litter_fractions_mass	mm, g
Needle_C, Needle_N	% C dry matter, %N dry matter
Total_N_in_litter, Total_C_in_litter	%
("total" refers to "total C compounds" or "total N compounds" within the tissue)	
Crop_details, Inter_Crop_details, Sowing_or_planting_date	text
Sowing_density, Yield_of_harvest	plant units ha^{-1}, kg m^{-2}
Grazing_conts_or_rotational, Grazing_period_dates	text
Peak_biomass, Legume_fraction	kg m^{-2}
Plant_species_1_ to species_4_cover	%
Weekly, monthly or seasonal data	
Snow_depth	mm
WMS_N2O_flux	µg N m^{-2} h^{-1}
WMS_CH4_flux	µg CH_4 m^{-2} h-1
WMS_Soil_CO2_Emission	µmol CO_2 m^{-2} s^{-1}
WMS_Soil_NH4_and NO3_conc_depth_1, 2	g N kg^{-1} dry soil
WMS_NO3_concn_in_leachate,	mg NO_3- L^{-1}
Leaching start_ and end_time	text
WMS_Tissue_C, WMS_Tissue_N	% C and N dry matter
WMS_LAI	m^2 m^{-2}
WMS_Mean_canopy_height	m

Field	Unit
WMS_Aboveground_biomass, litter_mass	kg m^{-2}
WMS_plant_productivity_conts_grazing	kg m^{-2} $week^{-1}$
WMS_Stemflow	mm
WMS_Standing_leaf_biomass, Leaf_litter_production	kg m^{-2}
WMS_Throughfall	mm
WMS_Thinnings	text
WMS_Organic_fertilizer_appl_method	text
WMS_Organic_fertilizer_form	text
WMS_Organic_fertilizer_dry_matter	text
WMS_Organic_fertilizer volume	m^3 ha^{-1}
WMS_Organic_fertilizer available C, available N	%
WMS_Organic_fertilizer applied C, applied N	kg C m^{-2}, kg N m^{-2}
WMS_Organic_fertilizer total_C, total_N	%
("total" refers to "total C compounds" or "total N compounds" within the tissue)	
WMS_Mineral_fertilizer_chem_form	text
WMS_Mineral_fertilizer_N, _P, _K	kg N m^{-2}, kg P m^{-2}, kg K m^{-2}
WMS_Animal_Live_weight (1-3)	kg
WMS_ Animal Type (1-3)	text
WMS_stocking density (1-3)	livestock units ha^{-1}
WMS_Yield, Biomass_residues,	kg m^{-2}
WMS_Vegetation_height_before_cut	m
WMS_Site_preparation, Herbicides, Liming, Pesticides, Irrigation,	text
WMS_Irrigation_water_applied, Tillage details, Other_events	text
WMS_Tillage_depth	m
WMS_Dip_well_water_table	cm
WMS_soil_moisture	%
Tissue_CN_ratio	ratio
Optional weekly, monthly or seasonal data	
Extra_N_(NO3-+ NH4+)_conc	mg N L^{-1}
Extra_Reactive_N_flux	ppb by volume m s^{-1}

Field	Unit
Extra_Total_bulk_total_N	g N m^{-2} y^{-1}
Extra_Wet_total_N	g N m^{-2} y^{-1}
Extra_Throughfall	g N m^{-2} y^{-1}
Extra_Stemflow_total_N	g N m^{-2} y^{-1}
Extra_Soil_NH4_depth3, _depth 4	mg NH_4 L^{-1}
Extra_Soil_ NO3_depth3, _depth 4	mg NO_3- L^{-1}
Extra_Soil_Total_N_conc, depths 1 - 4	mg N L^{-1}
Extra_Soil_Total_N_litter_humus_mass_based_conc	g N kg^{-1} dry soil
Optional soil suction cup data	
Suction_Wet_dep_start_and end_date	text
Soil NH_4 levels 1 and 2	mg NH_4 L^{-1}
Soil NO_3 levels 1 and 2	mg NO_3- L^{-1}
Soil water N_2O_levels 1 and 2	ppb N
Soil water CH_4_levels 1 and 2	ppb C
Soil gas N_2O levels 1 and 2	ppm N
Soil gas CH_4 levels 1 and 2	ppm C
Optional weekly, monthly or seasonal wet deposition data	
Wet_dep_start_ and end_date	text
Bulk_total	mm
Bulk_N_NH_4, Bulk_N_NO_3	g N m^{-2} yr^{-1}
Wet_total	mm
Wet_N_NH_4_dep, Wet_N_NO_3_dep	g N m^{-2} yr^{-1}
Throughfall_total	mm
Throughfall_N_NH4, _N_NO3	g N m^{-2} yr^{-1}
Stemflow_total	mm
Stemflow_N_NH4, _N_NO3	g N m^{-2} yr^{-1}
Optional additional special topic data	
Additional_special_topics_NitricAcid	ng N m^{-3}
Additional_special_topics_NitricAcid_and _nitrate_conc	ng N m^{-3}
Additional_special_topics_Ammonia_and_ ammonium_conc	ng N m^{-3}
Additional_special_topics_Ammonium_conc	ng N m^{-3}
Additional_special_topics_Nitrate_conc	ng N m^{-3}

Tab. SM2 - Data fields for NitroEurope component 1 (field measurements) "Level 3" Super-sites.

Field	Unit
4-a-day soil surface flux data	
4_a_day_CH_4_flux	µg CH_4 m^{-2} h^{-1}
4_a_day_CO_2_flux	µmol CO_2 m^{-2} s^{-1}
4_a_day_N_2O_flux	µg N m^{-2} h^{-1}
4_a_day_NO_flux	µg N m^{-2} h^{-1}
4_a_day_NO_2_flux	µg N m^{-2} h^{-1}
4_a_day_O_3 _flux	µg O_3 m^{-2} h^{-1}
30-min flux and concentration data	
CO_2_concentration	µmol CO_2 mol^{-1}
H_2O_concentration	mmol H_2O mol^{-1}
Atmospheric_stability_parameter	ratio
Gap-filled_CO_2_flux_storage_corrected	µmol CO_2 m^{-2} s^{-1}
Sensible_heat_flux, Latent_heat_flux	W m^{-2}
Momentum_flux	kg m^{-1} s^{-2}
Friction_velocity	m s^{-1}
Canopy_CO_2_storage	µmol CO_2 m^{-2} s^{-1}
Canopy_heat_storage	W m^{-2}
NO _concentration_30_min	ng N m^{-3}
NO2_concentration_30_min	ng N m^{-3}
O_3_concentration_30_min	ng m^{-3}
Roughness_length	m
Displacement_height	m
Evapotranspiration	mm d^{-1}
30-min meteorology data	
Precipitation	mm
Global_radiation	W m^{-2}
Outgoing_shortwave _ radiation	W m^{-2}
Incoming_longwave _ radiation	W m^{-2}
Outgoing_longwave_ radiation	W m^{-2}
Net _ radiation	W m^{-2}
PPFD_diffuse, PPFD_global	µmol Quanta m^{-2} s^{-1}
Air_temperature	° C
Air Pressure	kPa
Canopy_temperature	° C
Bole_temperature	° C
Soil_temperature_depth_1 to depth 4	° C
Soil_water_content_1 to depth 4	% by volume
Soil_heat_flux	W m^{-2}
Relative_humidity	%
Wind_direction	°
Horizontal_windspeed	m s^{-1}
Water_table_depth	m
Canopy_wetness	%
Snow_depth	cm
Optional special topic continuous flux data	
N_2O _concentration_special	ng N m^{-3}
NH_3_concentration_special	ng N m^{-3}
CH_4_concentration_special	ng CH_4 m-3
NO_flux_special	ng N m^{-2} s^{-1}
NO_2_flux_special	ng N m^{-2} s^{-1}
N_2O_ flux_special	ng N m^{-2} s^{-1}
NH_3_flux_special	ng N m^{-2} s^{-1}
CH_4_flux_special	ng CH_4 m^{-2} s^{-1}
O_3_flux_special	ng O_3 m^{-2} s-1
Aerosol_ammonium	ng N m^{-3}
Aerosol_nitric_acid	ng N m^{-3}
Aerosol_nitrate	ng N m^{-3}
Optional NO_x and O_3 concentration gradients (at heights 2 to 6)	
Extra_conc_NO_2	ng N m^{-3}
Extra_conc_NO	ng N m^{-3}
Extra_conc_O_3	ng m^{-3}
Measurement heights and depths for all relevant data fields	
Submission_comments (unlimited rows of comments)	
One-off data	
Ecosystem_age	yr
Management_scheme, Tree_species_composition	text
Crop_details, Crop_rotation_details	text
Land_use_25_years	text
Grazed_hay_silage	text
Number_grass_cuts_per_year	integer
Av_yield_per_cut	kg dry matter m^{-2}
Plot_drainage_details	text
Total_fertilizer_application	kg N ha^{-1} yr^{-1}
Mineral_fertilizer_application	kg N ha^{-1} yr^{-1}
Organic_fertilizer_application	kg N ha^{-1} yr^{-1}
Specific_field_problems	text
FAO_soil_classification	text
Soil_depth, Mean_rooting_depth	m
Bulk_density_depth_1 to depth_7	g soil cm^{-3} dry soil
Soil_clay_content_depth_1 to depth_8	% by volume
Soil_silt_content_depth_1 to depth _8	% by volume
Soil_sand_content_depth_1 to depth_8	% by volume
pH_depth_1 to depth_9	logarithm
Moisture_field_capacity_depth_1 to depth_2	% by volume
Microbial_biomass _N	mg N g^{-1} dry soil
Microbial_biomass_C	mg C g^{-1} dry soil
Mineralisation_rate	mg N kg^{-1} h^{-1}
Denitrification_rate	mg N m^{-2} h^{-1}
Nitrification_rate	µg N kg^{-1} h^{-1}
Shoot_ratio_C_to_N	ratio
Root_ ratio_C_to_N	ratio
Stone_fraction_depth_1 to depth_8	g cm^{-3}
Soil_hydr_conductivity_depth_1 to depth_5	m h^{-1} MPa^{-1}
Soil_total_organic_C_depth_1 to depth_9	% by weight
Soil_total_organic_N_depth_1 to depth_9	% by weight
PF_SWC_pressure_1_depth_1 to pressure_6_depth_4	m^3 H_2O m^{-3} soil
PF_pressure_1_depth_1 to pressure_6_depth_4	kPa
Loss on Ignition depth 1 - depth 5 (not all sites/years)	g kg^{-1}
Organic_fertilizer_C	kg C ha^{-1} yr^{-1}
Metadata	
Submission_date, Data_quality, Copyright	text
Submission comments, Time_zone	text
Site_name, NEU_Work_Package_no, Report_Period	text

Tab. SM2 - Data fields for NitroEurope component 1 (field measurements) "Level 3" Super-sites.

Field	Unit
PI_name, address, phone, fax, email	text
Site_Manager_ name, address, phone, fax, email	text
Field_Site_name, Country, Region	text
Latitude, Longitude	º
Elevation	m
Continuous_data_series_start_date, Topography	text
Slope angle	º

Field	Unit
Slope direction (exposure)	text
Mean_annual_temperature	º C
Precipitation	mm
Prevailing_wind_direction	text
Plot_size	m^2
Ecosystem description, Forest_type	text
Site_description	text
Surroundings_and_borders	text

Field	Unit
Number_of_soil_layers	text
Soil_layers_thickness	text
Field_drain_depth	m
Litter_type	text
Uncertainty_in flux and meteorological parameters	text
Fetch_Size_1 to _18 in 20 degree slices	m