

Tab. SM1 - Data fields for “Level 2” Regional low-cost sites.

Field	Unit	Field	Unit	Field	Unit
Annual data		WMS_Organic_fertilizer_dry_matter	text	Stemflow_N_NH4, Stemflow_N_NO3	g N m ⁻² yr ⁻¹
Mean_canopy_height	m	WMS_Organic_fertilizer_applied_C_N	kg C m ⁻² , kg N m ⁻²	30-minute flux and concentration data	
Wood_dry_biomass	g m ⁻²	WMS_Organic_fertilizer_available_C_N	%	CO ₂ _concentration, H ₂ O_concentration	μmol CO ₂ mol ⁻¹ , mmol H ₂ O mol ⁻¹
Aboveground_biomass	kg m ⁻²	WMS_Organic_fertilizer_Total_C_N	%	Atmospheric_stability_parameter	ratio
Leaf_litter_production	kg m ⁻²	WMS_Mineral_fertilizer_chem_form	text	Gap-filled_CO ₂ _flux_storage_corrected	μmol CO ₂ m ⁻² s ⁻¹
Needle_C, Needle_N	% C, N dry matter	NPK		Sensible_heat_flux, Latent_heat_flux	W m ⁻²
Total_N_and_Total_C_in_litter	%	WMS_Mineral_fertilizer_N,P,K_amount_applied	text	Momentum_flux	kg m ⁻¹ s ⁻²
(“total” refers to “total C compounds” or “total N compounds” within the tissue)		WMS_Animal_Live_weight	kg	Friction_velocity	m s ⁻¹
Crop_details_and_Inter_Crop_details	text	WMS_Animal_type	text	Canopy_CO ₂ _storage	μmol CO ₂ m ⁻² s ⁻¹
Sowing_or_planting_date_and_Sowing_density	Date, plant units ha ⁻¹	WMS_stocking_density	Livestock Units ha ⁻¹	Canopy_heat_storage	W m ⁻²
Yield_of_harvest	kg m ⁻²	Yield, biomass residues	kg m ⁻²	NO_concentration_30_min, NO ₂ _concentration_30_min	ng N m ⁻³
Grazing_conts_or_rotational_and_Grazing_period_dates	text	Vegetation_height_before_cut	m	O ₃ _concentration_30_min	ng m ⁻³
Plant_species_1_cover_to	text	Site_preparation, Herbicides, Liming, Pesticides, Irrigation	text	Roughness_length, Displacement_height	m
Plant_species_4_cover_details	text	Irrigation_water_applied, Tillage_details, Other_Events	text	Evapotranspiration	mm d ⁻¹
Weekly, monthly or seasonal data		Tillage_depth	m	30-minute meteorological data	
Snow_depth	mm	WMS_Dip_well_water_table	cm	Precipitation	mm
WMS_Soil_NH4_conc_depth_1_and_depth_2	g N kg ⁻¹ dry soil	WMS_soil_moisture	% by volume	Global_radiation,	W m ⁻²
WMS_Soil_NO3_conc_depth_1_and_depth_2	g N kg ⁻¹ dry soil	Tissue_CN_ratio	ratio	Outgoing_shortwave_radiation	
WMS_NO3_concn_in_leachate	mg NO ₃ - L ⁻¹	WMS_Animal_Live_weight_2	kg	Incoming_longwave_radiation,	W m ⁻²
WMS_Tissue_C_and_N	% C, N dry matter	Animal_Type_2	text	Outgoing_longwave_radiation	
WMS_LAI	m ² m ⁻²	Stocking_density_2	livestock units ha ⁻¹	Net_radiation	W m ⁻²
WMS_Mean_canopy_height	m	WMS_Animal_Live_weight_3	kg	PPFD_diffuse, PPFD_global	μmol Quanta m ⁻² s ⁻¹
Aboveground_biomass, Aboveground_litter_mass	kg m ⁻²	Animal_Type_3	text	Air_temperature	° C
WMS_Stemflow	mm	Stocking_density_3	livestock units ha ⁻¹	Air_Pressure	kPa
WMS_Standing_leaf_biomass, Leaf_litter_production	kg m ⁻²	Wet deposition data		Bole_temperature	° C
WMS_Throughfall	mm	Wet_dep_start_date_and_end_date	text	Soil_temperature_depth_1_to_depth_4	° C
WMS_Thinnings	text	Bulk_total	mm	Soil_water_content_depth_1_to_depth_4	% by volume
WMS_Organic_fertilizer_appl_method	text	Bulk_N_NH4, Bulk_N_NO3	g N m ⁻² yr ⁻¹	Soil_heat_flux	W m ⁻²
WMS_Organic_fertilizer_form	text	Wet_total	mm	Relative_humidity	%
WMS_Organic_fertilizer_volume	m ³ ha ⁻¹	Wet_N_NH4_dep, Wet_N_NO3_dep	g N m ⁻² yr ⁻¹	Wind_direction	°
		Throughfall_total	mm	Horizontal_windspeed	m s ⁻¹
		Throughfall_N_NH4,	g N m ⁻² yr ⁻¹	Water_table_depth	m
		Throughfall_N_NO3		Canopy_wetness	%
		Stemflow_total	mm	Snow_depth_30_min_met	cm

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Field	Unit	Field	Unit	Field	Unit
Mandatory soil surface flux data		Aerosol Ammonium Special	ng N m ⁻³	Site and submission metadata	
Soil_surface_flux_sampling_start_date_mandatory	text	Aerosol Nitric acid Special	ng N m ⁻³	Submission_date and Data_quality	text
Soil_surface_flux_sampling_end_date_mandatory	text	Aerosol Nitrate Special	ng N m ⁻³	Time_zone, Copyright comments	text
Soil_CO ₂ _flux_mandatory	μmol CO ₂ m ⁻² s ⁻¹	Measurement Heights and Depths (for all relevant fields)		Site_name, NEU_Work_Package_no, Report_Period	text
Soil_N ₂ O_flux_mandatory	μg N m ⁻² h ⁻¹	One-off data - measured only once during the project		PI_name, address, phone, fax, email	text
Soil_CH ₄ _flux_mandatory	μg CH ₄ m ⁻² h ⁻¹	Ecosystem_age	yr	Site_Manager_name, address, phone, fax, email	text
Optional soil surface flux data		Management_scheme, Tree_species_composition	text	Site Name, Country, Region	text
Soil_surface_flux_sampling_start_date_optional	text	Crop_details, Crop_rotation_or_practice, Land_use_25_years	text	Latitude, Longitude, Slope	° (deg)
Soil_surface_flux_sampling_end_date_optional	text	Grazed_hay_silage	text	Elevation	m
Soil_O ₃ _flux_optional	μg O ₃ m ⁻² h ⁻¹	Number_grass_cuts_per_year	text	Topography, Slope direction	text
Soil_NO_flux_optional	μg N m ⁻² h ⁻¹	Av_yield_per_cut	kg dry matter m ⁻²	Mean annual temperature	° C
Soil_NO ₂ _flux	μg N m ⁻² h ⁻¹	Plot_drainage_details	text	Precipitation	mm
Optional additional fluxes		Total_fertilizer_application	kg N ha ⁻¹ yr ⁻¹	Wind direction	° (deg)
Special_topics_start_date	text	Mineral_fertilizer_application	kg N ha ⁻¹ yr ⁻¹	Plot_size	m ²
Special_topics_end_date	text	Organic_fertilizer_application	kg N ha ⁻¹ yr ⁻¹	Ecosystem, Forest type	text
N ₂ O_concentration_special	ng N m ⁻³	Specific_field_problems	text	Site_description	text
NH ₃ _concentration_special	ng N m ⁻³	FAO_soil_classification	text	Surroundings_and_borders	text
CH ₄ _concentration_special	ng CH ₄ m ⁻³	Soil_depth, Mean_rooting_depth	m	Number_of_soil_layers	integer
NO_flux_special	ng N m ⁻² s ⁻¹	Bulk_density_depth_1_to_depth_5	g Soil cm ⁻³ dry soil	Soil_layers_thickness, description	text
NO ₂ _flux_special	ng N m ⁻² s ⁻¹	Soil_clay_content_depth_1_to_depth_5	% by volume	Field_drain_depth	m
N ₂ O_flux_special	ng N m ⁻² s ⁻¹	Soil_silt_content_depth_1_to_depth_5	% by volume	Litter_type	text
NH ₃ _flux_special	ng N m ⁻² s ⁻¹	Soil_sand_content_depth_1_to_depth_5	% by volume	Uncertainty_for_concentrations_and_meteorological_measurements	text
CH ₄ _flux_special	ng CH ₄ m ⁻² s ⁻¹	pH_depth_1_to_depth_5	logarithm	Fetch_Size_1_to_Fetch_Size_18 (in 20 degree segment)	m
O ₃ _flux_special	ng O ₃ m ⁻² s ⁻¹	Shoot_ratio_C_to_N, Root_ratio_C_to_N	ratio		
		Shoot_ratio_C_to_N, Root_ratio_C_to_N	ratio		