

## Glossary of Terms used in OverseerFM

Variable	Definition
NLossPerHa	Total modelled nitrogen loss per hectare, expressed as kg N/ha/year. This includes nitrogen lost to water and relevant loss pathways aggregated in the model output.
PLossPerHa	Total modelled phosphorus loss per hectare, expressed as kg P/ha/year.
GHGPerHa	Total modelled greenhouse gas emissions per hectare, expressed as kg CO <sub>2</sub> -e/ha/year. This aggregates methane, nitrous oxide, carbon dioxide, and embodied emissions reported in CO <sub>2</sub> -equivalent units.
CH4Total	Total methane emissions, expressed as CO <sub>2</sub> -equivalent per hectare/year. This includes enteric methane, dung-related methane, and effluent-related methane.
CH4Enteric	Methane emissions from enteric fermentation by animals. Enteric methane as being calculated from dry matter intake and an enteric methane emission factor.
CH4Dung	Methane emissions from dung/manure decomposition, excluding the effluent-system component where this is reported separately.
CH4Effluent	Methane emissions associated with dung/excreta managed through the effluent system, including effluent storage and treatment pathways.
N2OTotal	Total nitrous oxide emissions, expressed as CO <sub>2</sub> -equivalent per hectare/year in the impact plots. This includes direct and indirect N <sub>2</sub> O sources.
N2OExcretaPaddock	Nitrous oxide emissions from animal excreta deposited directly onto paddocks or pasture.
N2OExcretaEffluent	Nitrous oxide emissions associated with effluent, including emissions from effluent management and/or land-applied effluent.

<b>Variable</b>	<b>Definition</b>
N2ONFertiliser	Nitrous oxide emissions from nitrogen fertiliser inputs added to soil.
N2OCrops	Nitrous oxide emissions associated with crop residues, cultivation, or crop-related nitrogen inputs.
N2OIndirect	Indirect nitrous oxide emissions associated with nitrogen lost from the farm through volatilisation and leaching pathways.
CO2Total	Total carbon dioxide and embodied carbon dioxide emissions, expressed as CO <sub>2</sub> -equivalent per hectare/year in the impact plots.
CO2Other	Aggregate CO <sub>2</sub> -equivalent emissions from minor “Other” CO <sub>2</sub> sources, including animal health products, refrigerant losses, plastics, re-grassing, parasite control products, chemical sprays, other farm chemicals, effluent treatments, and residual other CO <sub>2</sub> items..
CO2EffTreatment	Carbon dioxide or embodied CO <sub>2</sub> -equivalent emissions associated with effluent treatment.
NCE	Nitrogen Conversion Efficiency: the percentage of estimated nitrogen removed in products relative to the estimated nitrogen inputs used for production.
NSurplus	Nitrogen surplus: estimated nitrogen inputs used for production minus estimated nitrogen removed in products. Inputs include sources such as fertiliser, imported feed, irrigation water, and clover fixation; removals include products such as milk, meat, wool, and crops.
NAddedFoliarSprays	Nitrogen added in foliar sprays, mainly relevant to fruit crop blocks where sprays are included in the nutrient budget.
NAddedFertiliser	Nitrogen added as fertiliser, lime-associated inputs where relevant, organic material, imported effluents, and related fertiliser-type nutrient inputs. For N specifically, this primarily represents fertiliser and organic/effluent N additions.
NAddedIrrigation	Nitrogen added in irrigation water.

<b>Variable</b>	<b>Definition</b>
NAddedSupplements	Nitrogen imported onto the farm in supplements, including brought-in supplements, stored supplements fed out, farm-grown supplements fed on the block, crops fed, and animal health supplements where included.
NAddedRainFixation	Nitrogen added through rainfall deposition and biological nitrogen fixation, especially clover or other N-fixing sources.
NRemovedLeaching	Nitrogen removed from the root zone or farm system through leaching, including urine-patch and background leaching where aggregated.
NRemovedProduct	Nitrogen removed in products sold or exported from the farm system, such as milk, meat/liveweight, wool, velvet, crops, fruit, or other products.
NRemovedPrunings	Nitrogen removed in prunings, mainly relevant to fruit crop blocks.
NRemovedTransfer	Net nitrogen transfer by animals between blocks or structures, such as nutrients consumed on one block and deposited elsewhere via excreta, including transfers involving pads, lanes, races, farm dairies, and wintering pads.
NRemovedEffluent	Nitrogen removed from the farm in exported effluent.
NRemovedAtmosphere	Nitrogen lost to the atmosphere, including volatilisation and denitrification losses. Denitrification includes nitrous oxide emissions.
NRemovedSupplements	Nitrogen removed as supplements, fodder crops, crop residues, or similar material removed from a block or exported from the farm.
NPoolOrganicPool	Change in nitrogen held in the organic pool, including net immobilisation/mineralisation into soil organic matter and, where relevant, accumulation in effluent storage ponds.
NPoolInorganicSoil	Change in the plant-available inorganic soil nitrogen pool, representing the inorganic/mineral N pool balance after additions, removals, and transformations.

<b>Variable</b>	<b>Definition</b>
NPoolStanding	Change in nitrogen held in standing plant material between the beginning and end of the reporting year.
NPoolFramework	Nitrogen accumulated in perennial crop framework, especially above- and below-ground fruit crop framework growth.
NPoolSuppStorage	Change in nitrogen held in stored supplements, reflecting changes in supplement storage over the reporting period.
NPoolRootStover	Change in nitrogen held in root and stover residues between the beginning and end of the reporting year.

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