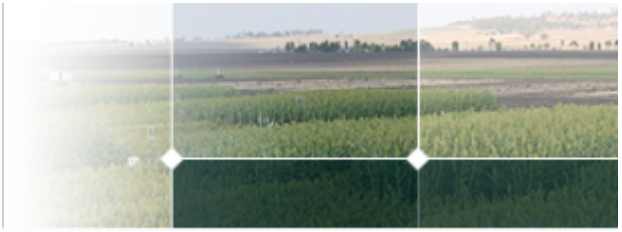

1 Nutrient

Properties (Outputs)

Name	Description	Units	Type	Settable?
Catm	Total C lost to the atmosphere	kg/ha	double	False
CNRF	Carbon to Nitrogen Ratio for Fresh Organic Matter used by low level functions.		double	False
DenitrifiedN	Denitrified Nitrogen (N flow from NO3).	kg/ha	double	False
DirectedGraphInfo	Get directed graph from model		DirectedGraph	True
FOM	The fresh organic matter pool.		IOrganicPool	True
FOMCarbohydrate	The fresh organic matter carbohydrate pool.		IOrganicPool	True
FOMCellulose	The fresh organic matter cellulose pool.		IOrganicPool	True
FOMCNRFactor	Carbon to Nitrogen Ratio for Fresh Organic Matter used by low level functions.		double	False
FOMLignin	The fresh organic matter lignin pool.		IOrganicPool	True
Humic	The humic pool.		IOrganicPool	True
HydrolysedN	Urea converted to NH4 via hydrolysis.	kg/ha	double	False

Name	Description	Units	Type	Settable?
Inert	The inert pool.		IOrganicPool	True
Microbial	The microbial pool.		IOrganicPool	True
MineralisedN	Total Net N Mineralisation in each soil layer	kg/ha	double	False
MineralN	Total Mineral N in each soil layer	kg/ha	double	False
N2Oatm	Total N2O lost to the atmosphere	kg/ha	double	False
Natm	Total N lost to the atmosphere	kg/ha	double	False
NH4	The NH4 pool.		ISolute	True
NitrifiedN	Nitrified Nitrogen (from NH4 to either NO3 or N2O).	kg/ha	double	False
NO3	The NO3 pool.		ISolute	True
Organic	Soil organic nitrogen (FOM + Microbial + Humic + Inert)		IOrganicPool	False
TotalC	Total C in each soil layer	kg/ha	double	False
TotalN	Total N in each soil layer, organic, mineral and nitrogen solutes (kg/ha).	kg/ha	double	False
TotalOrganicN	Total organic N in each soil layer, organic and mineral (kg/ha).	kg/ha	double	False
Urea	The Urea pool.		ISolute	True

Links (Dependencies)

Name	Type	IsOptional?
nutrientFlows	List<NFlow>	False
nutrientPools	List<OrganicPool>	False
soilPhysical	IPhysical	False
summary	ISummary	False

Name	Type	IsOptional?
surfaceResidue	OrganicPool	False

Methods (callable from manager)

Name	Description
Document	ITag Document()
DoIncorpFOM	void DoIncorpFOM(FOMLayerType FOMdata) *Incorporate the given FOM C and N into each layer*
GetModelDescription	ITag GetModelDescription()
IncorpFOMPool	void IncorpFOMPool(FOMPoolType FOMPoolData) *Partition the given FOM C and N into fractions in each layer (FOM pools)*
Reset	void Reset()

2 OrganicPool

A nutrient pool.

Properties (Outputs)

Name	Description	Units	Type	Settable?
C	Amount of carbon (kg/ha)		double	False
Catm	Total C lost to the atmosphere (kg/ha)		double	False
LayerFraction	Fraction of each layer occupied by this pool.		double	False
N	Amount of nitrogen (kg/ha)		double	False
P	Amount of phosphorus (kg/ha)		double	False

Links (Dependencies)

Name	Type	IsOptional?
flows	List<OrganicFlow>	False
initialCarbon	IFunction	True

Name	Type	IsOptional?
initialNitrogen	IFunction	True
initialPhosphorus	IFunction	True

Methods (callable from manager)

Name	Description
Add	void Add(int32 index, double c, double n, double p) *Add an amount of c, n, p (kg/ha) into a layer.*
Add	void Add(double c, double n, double p) *Add an amount of c, n, p (kg/ha).*
Clear	void Clear()
DoFlow	void DoFlow()
Initialise	void Initialise(int32 numberLayers) *Performs the initial checks and setup*
SetLayerFraction	void SetLayerFraction(double values)

3 NFlow

Encapsulates a nitrogen flow between mineral N pools.

Properties (Outputs)

Name	Description	Units	Type	Settable?
DestinationName	Name of destination pool.		String	True
N2Oatm	N2O lost (kg/ha)		double	False
Natm	Value of total loss.		double	False
SourceName	Name of source pool.		String	True
Value	Value of total N flow into destination.		double	False

Links (Dependencies)

Name	Type	IsOptional?
N2OFraction	IFunction	False
NLoss	IFunction	False
rate	IFunction	False

Methods (callable from manager)

Name	Description
DoFlow	void DoFlow()
Initialise	void Initialise(int32 numberLayers) *Performs the initial checks and setup*