



1 OilPalm

Properties (Outputs)

Name	Description	Units	Type	Settable?
AboveGround	Aboveground mass		IBiomass	False
Age	Time since planting	y	double	True
Albedo	Albedo.		double	False
BunchGrowth	Daily bunch dry matter growth	g/m ²	double	True
BunchMass	Gets the bunch mass.	g/m ²	double	False
BunchN	Gets the bunch n.	g/m ²	double	False
BunchNConc	Gets the bunch n conc.	%	double	False
CanopyType	Canopy type		String	False
CarbonStress	Amount of carbon limitation for todays potential growth (ie supply/demand)	0-1	double	True
cover_green	Gets the cover_green.	0-1	double	False
cover_tot	Total cover provided by plant canopies	0-1	double	False
CoverGreen	Gets the cover green (0-1)		double	False
CoverTotal	Gets the cover total (0-1)		double	False
CultivarNames	Gets a list of cultivar names		String	False
CumulativeBunch	Cumulative bunch production since planting	/palm	double	True

Name	Description	Units	Type	Settable?
CumulativeFrondNumber	Cumulative frond production since planting	/palm	double	True
DefoliationFraction	Gets or sets the defoliation fraction.		double	True
Depth	Gets the canopy depth (mm)		double	False
DiffuseLightFraction	Gets the diffuse light fraction.		double	False
DltDM	Daily total plant dry matter growth	g/m2	double	True
EP	Daily evapotranspiration from the palm canopy	mm	double	True
FFF	Gets the FFF.	0-1	double	False
Fn	Factor for daily nitrogen stress effect on photosynthesis	0-1	double	True
FRGR	Gets the LAI (m ² /m ²)	0-1	double	False
Frond17Area	Gets the frond17 area.	m ²	double	False
FrondArea	Gets the frond area.	m ²	double	False
FrondGrowth	Daily frond dry matter growth	g/m ²	double	True
FrondMass	Gets the frond mass.	g/m ²	double	False
FrondN	Gets the frond n.	g/m ²	double	False
FrondNConc	Gets the frond n conc.	%	double	False
FrondNumber	Gets the frond number.	/palm	double	False
Fvpd	Factor for daily VPD effect on photosynthesis	0-1	double	True
FW	Factor for daily water stress effect on photosynthesis	0-1	double	True
Gsmax	Gets or sets the gsmax.		double	False
HarvestBunches	Number of bunches harvested on a harvesting event	/palm	double	True

Name	Description	Units	Type	Settable?
HarvestBunchSize	Mean size of bunches at a harvesting event	kg	double	True
HarvestFFB	Mass of harvested FFB on a harvesting event	t/ha	double	True
HarvestNRemoved	Nitrogen removed at a harvesting event	kg/ha	double	True
Height	Gets the canopy height (mm)		double	False
IsAlive	Is the plant alive?		boolean	False
IsC4	Gets a value indicating whether the biomass is from a c4 plant or not		boolean	False
IsCropInGround	Gets or sets a value indicating whether this instance is crop in ground.	True/False	boolean	True
IsReadyForHarvesting	Returns true if the crop is ready for harvesting		boolean	False
LAI	Gets the lai.	m ² /m ²	double	True
LAITotal	Gets the maximum LAI (m ² /m ²)		double	False
LightProfile	MicroClimate supplies LightProfile		CanopyEnergyBalanceInterceptio...	
MaximumRootDepth	Gets or sets the maximum root depth.	mm	double	True
NitrogenUptake	Daily nitrogen uptake from each soil layer by palms	kg/ha	double	True
PEP	Potential daily evapotranspiration for the palm canopy	mm	double	True
PlantN	Gets the plant n.	g/m ²	double	False
PlantType	The plant type.		String	False
Population	Gets or sets the population.	/m ²	double	True
PotentialEP	Potential evapotranspiration	mm	double	True
R50	Gets or sets the R50.		double	False

Name	Description	Units	Type	Settable?
ReproductiveGrowthPartition	Proportion of daily growth partitioned into reproductive parts	0-1	double	True
RootDepth	Palm Rooting Depth	mm	double	True
RootGrowth	Daily root dry matter growth	g/m ²	double	True
RootMass	Gets the root mass.	g/m ²	double	False
RootN	Gets the root n.	g/m ²	double	False
RootNConc	Gets the root n conc.	%	double	False
SLA	Gets the sla.	cm ² /g	double	False
StemGrowth	Daily stem dry matter growth	g/m ²	double	True
StemMass	Gets or sets the stem mass.	g/m ²	double	True
StemN	Gets or sets the stem n.	g/m ²	double	True
TotalFrondNumber	Gets the total frond number.	/palm	double	False
UnderstoryCoverGProp	Proportion of green cover provided by the understory canopy	0-1	double	True
UnderstoryCoverMGet	Gets or sets the understory cover maximum.	0-1	double	True
UnderstoryDltDM	Daily understory dry matter growth	g/m ²	double	True
UnderstoryEP	Daily evapotranspiration for the understory	mm	double	True
UnderstoryFW	Understory plant water stress factor	0-1	double	True
UnderstoryLegumeFrac	Gets or sets the understory legume fraction.	0-1	double	True
UnderstoryNFixation	Daily understory nitrogen fixation	kg/ha	double	True
UnderstoryNUptake	Actual soil nitrogen uptake from each soil layer by understory		double	True

Name	Description	Units	Type	Settable?
UnderstoryPEP	Potential daily evapotranspiration for the understory	mm	double	True
UnderstoryPotNUptake	Potential nitrogen water uptake from each soil layer by understory		double	True
VPD	VPDs this instance.	hPa	double	False
WaterDemand	Sets the actual water demand.	mm	double	True
WaterUptake	The sw uptake		double	True
Width	Gets the width of the canopy (mm).		double	False

Links (Dependencies)

Name	Type	IsOptional?
BunchFailureFraction	IFunction	False
BunchNConcentration	IFunction	False
BunchOilConversionFactor	IFunction	False
BunchSizeMax	IFunction	False
Clock	Clock	False
DiffuseExtinctionCoeff	IFunction	False
DirectExtinctionCoeff	IFunction	False
ExpandingFronds	IFunction	False
FemaleFlowerFraction	IFunction	False
FFFStressImpact	IFunction	False
FlowerAbortionFraction	IFunction	False
FronDAppearanceRate	IFunction	False
FronDCriticalNConcentration	IFunction	False
FronDMaxArea	IFunction	False

Name	Type	IsOptional?
FronMaximumNConcentration	IFunction	False
FronMinimumNConcentration	IFunction	False
HarvestFronNumber	IFunction	False
InitialFronNumber	IFunction	False
KNO3	IFunction	False
MetData	IWeather	False
NO3	ISolute	False
RelativeDevelopmentalRate	IFunction	False
RipeBunchWaterContent	IFunction	False
RootFraction	IFunction	False
RootFrontVelocity	IFunction	False
RootNConcentration	IFunction	False
RootSenescenceRate	IFunction	False
RUE	IFunction	False
Soil	Soil	False
soilPhysical	IPhysical	False
SpecificLeafArea	IFunction	False
SpecificLeafAreaMax	IFunction	False
StemNConcentration	IFunction	False
StemToFronFraction	IFunction	False
Summary	ISummary	False
waterBalance	ISoilWater	False

Events published

Name	Type
BiomassRemoved	Void BiomassRemoved (BiomassRemovedType Data)
Harvesting	Void Harvesting (Object sender, EventArgs e)
IncorpFOM	Void IncorpFOM (FOMLayerType Data)
Sowing	Void Sowing (Object sender, EventArgs e)

Methods (callable from manager)

Name	Description
BiomassRemovalComplete	void BiomassRemovalComplete(double fractionRemoved) <i>Biomass has been removed from the plant.</i>
Document	ITag Document()
EndCrop	void EndCrop()
GetNitrogenUptakeEstimates	ZoneWaterAndN GetNitrogenUptakeEstimates(SoilState soilstate) <i>Placeholder for SoilArbitrator</i>
GetWaterUptakeEstimates	ZoneWaterAndN GetWaterUptakeEstimates(SoilState soilstate) <i>Placeholder for SoilArbitrator</i>
Harvest	void Harvest()
SetActualNitrogenUptakes	void SetActualNitrogenUptakes(ZoneWaterAndN info)
SetActualWaterUptakes	void SetActualWaterUptake(ZoneWaterAndN info)
Sow	void Sow(String cultivar, double population, double depth, double rowSpacing, double maxCover, double budNumber, double rowConfig) <i>Sows the specified cultivar.</i>