

Pessl Instruments' Crop Solutions

Minimum sensor set needed for disease model calculations

CROP	DISEASE MODEL	Rain	Air Temperature	Relative Humidity	Leaf wetness	Barometric Pressure	Soil Temperature	Soil Water Tension	Soil Water Content (VWC)	ET0 Evapotranspiration	Solar Radiation	Wind Speed
APPLE	Aphid Risk		X	X	X							
	Chilling Portions		X									
	Codling Moth		X	X								
	Fire Blight: Erwinia amylovora		X		X							
	Rain pesticide wash off	X			X							
	Scab Venturia inaequalis / Ascospore Infection		X	X	X							
	Scab Venturia inaequalis / Ascospore Maturity Release		X	X	X							
	Scab Venturia inaequalis / Conidia Infection		X	X	X							
APRICOTS, PLUMS AND SLOES	Aphid Risk		X	X	X							
	Brown rot Monilia laxa	X	X	X	X							
	Chilling Portions		X									
	Monilinia risk		X		X							

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APRICOTS, PLUMS AND SLOES	Powdery Mildew Risk		X		X							
	Rain pesticide wash off	X			X							
	Rust Infection	X	X	X	X							
	Scab / Cladosporium Carpophilum		X	X	X							
	Shot hole Wilsonomyes carpophilus	X	X	X	X							
	Taphrina Deformans	X	X		X							
	Taphrina Leaf Curl		X									
	Taphrina Prunii	X	X		X							
	Xanthomonas arboricola infection		X	X	X							
ASPARAGUS	Grey Mould risk		X	X	X							
	Purple Spot infection		X	X	X							
	Purple Spot Tomcast		X	X	X							

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BLACKBERRY	Grey mould		X	X	X							
	Rust		X	X	X							
BLUEBERRY	Anthrachnose Colletotrichum acutatum	X	X	X	X							
	Anthrachnose Elsinoe v.	X	X	X	X							
	Bacterial Cancer	X	X	X								
	Botrytis cinerea		X	X	X							
	Chilling Portions		X									
	Monilinia Blight		X		X							
	Phomopsis Risk	X	X	X								
CARROTS AND BEETROOTS	Alternaria Daucii		X	X	X							
	Alternaria TomCast		X	X	X							
	Beetroot Cercospora		X	X	X							

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CHERRY	Anthraxnose Colletotrichum acutatum	X	X	X	X							
	Bacterial cancer Pseudomonas syringae	X		X	X			X				
	Brown rot Monilia laxa	X	X	X	X							
	Chilling Portions		X									
	Cladosporium Carpophilum Risk		X		X							
	Leaf spot Blumeriella jaapii	X	X	X	X							
	Powdery Mildew Risk/ Podosphaera clandestina		X		X							
	Rain pesticide wash off	X			X							
	Shot hole Wilsonomyces carpophilus	X	X	X	X							
	Taphrina Leaf Curl		X									
	Western Flower thrips Frankliniella occidentalis		X	X								
ORANGES AND LEMONS	Alternaria sp.	X	X		X							

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ORANGES AND LEMONS	Post Bloom Fruit Drop	X			X							
COFFEE	Berry Disease Colletotrichum kahawae		X	X	X							
	Disease severity of Coffee Diseasses	X	X	X	X							
	Leaf rust Hemileia vastatrix		X	X	X							
	Pesticide wash off	X	X		X							
MAIZE	Fusarium Head Blight	X	X	X	X							
	Grey Leaf Spot Cercospora sp.		X	X								
	Leaf Blight Helminthosporium turcicum		X		X							
COTTON	Alternaria alternata		X	X	X							
	Anthracnose Colletotrichum gossipii	X	X	X	X							
	Fusarium Risk	X	X	X	X							
	Powdery Mildew		X		X							

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GRAPES	Anthrachnose/Elsinoe ampelina	X	X	X	X							
	Blackrot/ Guignardia bidwellii	X	X		X							
	Botrytis Bunch Rot/Grey Mould risk		X	X	X							
	Downy Mildew Plasmopara viticola Primary Cycle	X	X	X	X							
	Downy Mildew Plasmopara viticola Secondary Cycle	X	X	X	X							
	Grape Berry Moth		X									
	Leaf Growth Per Week		X									
	Pesticide wash off	X			X							
	Phomopsis Infection/Phomopsis Cane and Leaf Spot	X	X	X	X							
	Powdery Mildew / U. necator Ascospore Infection	X	X	X	X							
	Powdery Mildew / U. necator California Risk		X									
HAZELNUT	Monilinia risk		X		X							

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HAZELNUT	Powdery Mildew Phyllactinia guttata	X	X		X							
KIWI	Botrytis cinerea		X	X	X							
	Phytophthora Model TomCast		X	X	X							
	Stemphylium sp.		X	X	X							
LETTUCE	Anthracnose	X	X	X	X							
	Downy Mildew Bremia Lactucae	X	X	X	X							
	Grey Mould risk		X	X	X							
HEMP AND FLAX	Alternaria sp. TomCast		X	X	X							
	Anthracnose Colletotrichum sp.		X		X							
	Cercospora Leaf Spots		X	X								
	Downy Mildew Pseudoperonospora sp.	X	X	X	X							
	Grey Mould risk		X	X	X							

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HEMP AND FLAX	Phoma Stem Cancer	X	X	X	X							
	Powdery mildew risk		X		X						X	
	Rust	X	X		X							
	Sclerotinia Infection	X	X	X	X		X					
	Septoria nodorum	X	X	X	X							
	Septoria tritici	X	X	X	X							
	Stemphylium sp.		X	X	X							
MACADAMIA	Anthracnose Colletotrichum	X	X	X	X							
	Grey Mould		X	X	X							
	Phomopsis	X	X	X	X							
MANGO	Xanthomonas arboricola infection		X	X	X							
	Xanthomonas fruit and leaf infection	X	X	X	X							

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CABBAGES, CAULIFLOWER & BROCCOLI	Alternaria sp. TomCast		X	X	X							
	Downy Mildew Infection Frey		X	X	X							
	Mycosphaerella Brassicicola		X	X	X							
	Sclerotinia Infection	X	X	X	X		X					
	White Blister Albugo candida	X	X	X	X						X	
OLIVE	Anthracnose	X	X	X	X							
	Leaf spot Spilocaea oleagina infection		X	X	X							
ONION	Botrytis cinerea risk		X	X	X							
	Downy mildew P. destructor model Milion Cast infection	X	X	X	X							
	Downy mildew P. destructor model Milion Cast Severity	X	X	X	X							
	Leaf Blight Botrytis squamosa Infection		X	X	X							
	Leaf blight Botrytis squamosa Infection and Severity		X		X							

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ONION	Leaf blight Stemphylium vesicarium		X	X	X							
	Purple Blotch TomCast		X	X	X							
EGGPLANTS, TEMPORARY CHILLIES AND PEPPERS	Blight Phytophthora Capsici	X	X	X	X							
	Grey Mould risk		X	X	X							
	Phytophthora infestans model Frey		X	X	X							
	TomCast		X	X	X							
PEACHES OR NECTARINES	Aphid Risk		X	X	X							
	Chilling Portions		X									
	Monilia risk		X		X							
	Powdery Mildew Sphaerotheca Pannosa risk		X		X							
	Rain pesticide wash off	X			X							
	Scab Cladosporium Carpophilum risk		X		X							

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PEACHES OR NECTARINES	Taphrina Leaf Curl		X									
PEARS AND QUINCES	Aphid Risk		X	X	X							
	Brown Spot Infection		X	X	X							
	Chilling Portions		X									
	Fireblight		X		X							
	Leaf spot Fabrea sp.	X	X		X							
	Monilia Infection	X	X	X	X							
	Rain pesticide wash off	X			X							
	Scab Venturia Pirina		X		X							
POMEGRANATE	Alternaria alternata		X	X	X							
	Botrytis cinerea		X	X	X							
	Xanthomonas Blossom Infection		X	X	X							

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POMEGRANATE	Xanthomonas Fruit and Leaf Infection	X	X	X	X							
	Xanthomonas Propagation index		X	X	X							
POTATOES	Alternaria model TomCast		X	X	X							
	Aphid Risk		X	X	X							
	Colorado Beetle Risk		X				X					
	Negative Prognosis Phythophthora Infestans	X	X	X	X							
	Phytophthora Infestans	X	X	X	X						X	
	Phytophthora infestans model Blite Cast	X	X	X	X							
	Phytophthora infestans model Frey		X	X	X							
	Phytophthora infestans model NoBlight	X	X	X	X							
	Phytophthora infestans model Winstel Cast		X	X	X							
	Potato black leg Pectobacterium Aerial Infection		X	X	X							

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STRAWBERRY	Powdery Mildew		X	X	X							
SUGARBEET	leaf spot C. beticola model Beet Cast	X	X	X	X							
	leaf spot C. beticola model Cercopri		X	X								
	leaf spot Cercospora model Pessl	X	X	X	X							
SUGARCANE	Anthracnose Colletotrichum	X	X	X	X							
	Flowering Induction		X									
	Fusarium Head Blight	X	X	X	X							
SUNFLOWER	Alternaria sp. model TomCast		X	X	X							
	Downy mildew Plasmopara halstedii Soil Borne	X	X	X	X		X					
	Grey Mould risk		X	X	X							
	Stem rot Sclerotinia	X	X	X	X		X					
TOBACCO	Blue Mold Infection date	X	X	X	X						X	

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TOBACCO	Blue Mold Peronospora tabacina Risk and Spray Interval	X	X	X	X							
	Thrips risk		X	X								
TURF	Rhizoctonia solani		X		X						X	
	Oversowing of grass seeds		X									
	Phytium, Brown Patch and Dollar Spot	X	X	X	X						X	
	Snow Mold Typhula sp.		X		X						X	
WALNUTS, ALMONDS AND PISTACHIOS	Alternaria Leaf Spot Almonds/ Alternaria alternata		X	X	X							
	Alternaria sp.	X	X		X							
	Anthracnose	X	X	X	X							
	Botrytis Grey mould		X	X	X							
	Chilling Portions		X									
	Codling Moth Cydia		X	X								

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WALNUTS, ALMONDS AND PISTACHIOS	Gnomonia leptostyla		X		X							
	Monilia laxa	X	X	X	X							
	Panicle and Shoot Blight	X	X	X	X							
	Rust Infection	X	X	X	X							
	Shot hole Wilsonomyces carpophilus	X	X	X	X							
	Walnut Blight/ fruit and leaf infection	X	X	X	X							
	Walnut Blight/ Xanthomonas arboricola Blossom Infection		X	X	X							
	Walnut Blight/ Xanthomonas Propagation Index		X	X	X							
TOMATO - WARM CLIMATE	Alternaria sp. TomCast		X	X	X							
	Anthracnose		X		X							
	Aphid Risk		X	X	X							
	Blight Phytophthora Capsici	X	X	X	X							

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TOMATO - WARM CLIMATE	Grey Mould risk		X	X	X							
	Leaf Mould Cladosporium fulvum		X	X	X							
	Phytophthora infestans model NoBlight	X	X	X	X							
	Powdery Mildew Leveillula Taurica		X	X	X							
	Powdery Mildew Risk		X		X							
	Powdery Mildew Risk inkl. Solar		X		X						X	
	Septoria Leaf Spot		X	X	X							
WHEAT AND BARLEY	Rhizoctonia solani		X		X						X	
	Aphid Risk		X	X	X							
	Barley stripe/D. graminea	X	X	X	X		X					
	Drechslera teres		X	X	X							
	Fusarium Head Blight	X	X	X	X							

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WHEAT AND BARLEY	Fusarium Head Blight risk		X	X	X							
	Leaf Blotch Rynchosporium		X	X	X							
	Leaf Blotch Septoria nodorum	X	X	X	X							
	Powdery Mildew Blumeria graminis		X								X	
	Pyricularia grisea/Wheat Blast		X	X	X							
	Ramularia	X	X	X	X						X	
	Rust Puccinia sp.		X		X						X	
	Septoria Tritici blotch	X	X	X	X							
	Take all Gaeumannomyces graminis						X					