

DAFF MINOR CROPS STAKEHOLDERS' WORKSHOP 2018

Avocado, Mango & Litchi



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KEY INDUSTRY STATISTICS



Avocados

Area planted: ±17,000 ha

Annual expansion: ±1000 ha

Production: ±120,000 t

Value*: ±R1.85 billion p.a.

Commercial growers: ±340

Emerging growers (Subtrop members): 78

Employment: ±11,000 Full-time equivalent

*FOB Cape Town & Fresh Produce Market /
wholesale value.



Mangoes

Area planted: ±7,000 ha

Annual expansion: ±100 ha

Production: ±75,000 t

Value*: ±R320 million p.a.

Commercial growers: ±120

Emerging growers (Subtrop members): 54

Employment: ±3,000 (permanent)

*FOB Cape Town & Fresh Produce Market /
wholesale value.



Litchis

Area planted: ±1130 ha

Annual expansion: ±50 ha

Production: ±6,000 t

Value*: ±R120 million p.a.

Commercial growers: ±100

Emerging growers (Subtrop members): 25

Employment: ±2,400 (seasonal and permanent)

*FOB Cape Town & Fresh Produce Market /
wholesale value.



ACTIVE INGREDIENTS REGISTERED FOR USE ON Avocado, Mango & Litchi in SA

Actives registered for control of avocado pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Fruit sucking bug complex	Acephate	35	Fruit set to 35 days before harvest
	Beta-cyfluthrin	0	Only at flowering
	Pymetrozine	21	Flowering to 21 days before harvest
Heart-shaped scale	Buprofezin	160	-
Soft brown scale	Mercaptothion	7	NOT to be used for EXPORT
Fruit flies (various spp.)	Ammonium acetate	0	
	Trimethylamine hydrochloride	0	
	Mercaptothion	7	NOT to be used for EXPORT
	Methyl Eugenol	0	
	Proteinhydrolysate	0	
	Alpha-cypermethrin	0	
	Spinosad	1	
	Trichlorfon (organo-phosphate)	0	

Actives registered for control of avocado pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Thrips	Abamectin	14	
	Mercaptothion	7	NOT to be used for EXPORT
	Spinetoram	7	
	Sulphur	0	
Leafrollers	Bacillus thuriengiensis var. kurstaki	0	
African Bollworm	Helicoverpa armigera Nucleopolyhedrovirus (HaNPV)	0	
False codling moth (FCM)	Cryptophlebia leucotreta granulovirus	0	
	Chlorantraniliprole	14	
	Methoxyfenozide	30	
	Beauvaria bassiana (strain PPRI 5339)	0	
	Dodecenyl Acetate E8 + Dodecenyl Acetate Z8	28	
	Spinetoram	7	

Actives registered for control of avocado pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Pre-plant: Nematodes	Chloropicrin	7	Before planting
	1.3-Dichloropropene	21	Before planting
	Dazomet (thiadiazine)	18	Before planting
	Furfural (aldehyde)	7	Before planting

Actives registered for control of avocado diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Cercospora (Fruit) spot (Pseudocercospora purpurea.)	Azoxystrobin	28	
	Benomyl	14 / 140	First application towards the end of November. Second application towards the end of January
	Carbendazim	90 / 140	
	Copper ammonium acetate	14	
	Copper hydroxide	14	
	Copper oxychloride	14	
	Copper sulphate (basic)	14	
	Bordeaux mixture: copper sulphate / lime / metallic copper	14	
	Cuprous oxide	14	
	Copper sulphate / mancozeb	14	NOT to be used for EXPORT

Actives registered for control of avocado diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Anthracnose (Colletotrichum spp.)	Copper ammonium acetate	14	
	Copper oxychloride	14	
	Cyprodinil / Fludioxonil	3	
Fruit rot (Botrytis spp; Alternaria spp)	azoxystrobin	28	
	Cyprodinil / Fludioxonil	3	
Sooty blotch	Copper ammonium acetate	14	
Root & trunk rot	Fosetyl-Al	30	
	Metalaxyl	30	
	Metalaxyl-M (mefenoxam)	30	
	Phosphorous acid / Potassium phosphonate	100 / 30	Rootmaster 98 (100); Avoguard 500 SL (30)

Actives registered for control of avocado diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Pre-plant: Soil fungi	Chloropicrin	7	Before planting
	1.3-dichloropropene / chloropicrin	21	Before planting
	Dazomet (thiadiazine)	18	Before planting
	Furfural (aldehyde)	7	Before planting

Actives registered for control of Mango pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
African Bollworm	Helicoverpa armigera Nucleopolyhedrovirus (HaNPV)	0	
Bud Mite	Bromopropylate	0	
Fruit flies (various spp.)	Permethrin / Fruit Fly attractant	0	
	Fenthion	10	NOT TO BE USED FOR EXPORT
	Spinosad	1	
	Proteinhydrolysate	0	
	alpha-cypermethrin	0	
	Methyl Eugenol	0	
	Mercaptothion	10 / 30	10 (Local) / 30 (Export)
	Trichlorfon	10 / 30	10 (Local) / 30 (Export)

Actives registered for control of Mango pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Mealy Bug	Thiamethoxam	130	NOT for EXPORT fruit
Scale	Chlorpyrifos	136	
	Prothiofos	40	
	Pyriproxyfen	60	
	Thiamethoxam	130	NOT for EXPORT fruit
Thrips (bearing trees)	Fipronil	0	
Weevil	Deltamethrin	28	
	Esfenvalerate	30	
	Fenvalerate	30	
	Thiamethoxam	130	NOT for EXPORT fruit
	Triflumuron	28	

Actives registered for control of Mango pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Pre-plant: Nematodes	Chloropicrin	7	Before planting 7 - 10
	1.3-Dichloropropene	21	Before planting 21
	Furfural (aldehyde)	7	Before planting 7

Actives registered for control of Mango diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Anthracnose	Azoxystrobin	21	
	Copper oxychloride	14	
	Mancozeb / dithiocarbamate / zineb / maneb	(14) 60	Optimum pH 5. Although PHI is 14 days, SAMGA recommends 60 days.
	Cyprodinil / fludioxonil		
Bacterial Spot	Acibenzolar-S-methyl	3	
	Copper ammonium acetate	21	
	Copper hydroxide	14	
	Copper sulphate	14	
	Copper sulphate / mancozeb	(14) 60	Product contains Mancozeb so SAMGA recommends 60 day withholding period.
	Copper oxychloride	14	

Actives registered for control of Mango diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Powdery mildew	Benomyl + triforine	0	
	Triforine	0	
	Bupirimate	0	Do not apply beyond 100% petal drop
	Bupirimate / hexaconazole	0	
	Carbendazim	124	
	Copper oxychloride / sulfur	14	
	Flusilazole	124	
	Kresoxim-methyl	48	
	Prochloraz manganese chloride	0	Not to be sprayed on fruit - spray ONLY during flowering.
	Propiconazole	0	
Spiroxamine	0		

Actives registered for control of Mango diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Powdery mildew	Quinoxyfen	0	
	Sulphur	0	
	Tebuconazole	0	Not to be sprayed on fruit - spray ONLY during flowering
	Tetraconazole	0	
	Triadimenol	0	
	Triademefon / carbendazim	62	
Mango Blossom Malformation	Potassium phosphite (phosphorous acid)	50	
Post-harvest decay	Benomyl + copper oxychloride	14	LOCAL MARKET ONLY
	Cyprodinil / fludioxonil	3	
	Didecyl dimethyl ammonium chloride	0	NOT for EXPORT fruit
	Fludioxonil	1	

Actives registered for control of Mango diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Post-harvest decay	Fludioxonil + prochloraz zinc complex	1	
	Prochloraz (Imidazole)	0	
	Prochloraz zinc complex	0	
Pre-plant: Soil fungi	Chloropicrin	7	Before planting
	1.3-dichloropropene / chloropicrin	21	Before planting
	Dazomet (thiadiazine)	18	Before planting
	Furfural (aldehyde)	7	Before planting

Actives registered for control of Litchi pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
African Bollworm	Helicoverpa armigera Nucleopolyhedrovirus (HaNPV)	0	
Stem and bark borers (Larvae)	Carbaryl	0	Stem application
False codling moth (FCM)	Permethrin	0	
	Methoxyfenozide	30	
	Beauvaria bassiana (strain PPRI 5339)	0	
	Chlorantraniliprole	14	
	Dodecenyl Acetate E8 + Dodecenyl Acetate Z8	28	
	Bacillus thuringiensis subspecies kurstaki strain SB4	0	
	Cryptophlebia leucotreta granulovirus	0	

Actives registered for control of Litchi pests

PEST	ACTIVE INGREDIENT	PHI (Days)	Notes
Aphids, Redspider mites & Whitefly	Garlic extract from Allium sativa & conola oil	0	
Fruit flies (various spp.)	Spinosad	1	
	Methyl Eugenol	0	
	Mercaptothion	0	
	Proteinhydrolysate & plant extract + alpha-cypermethrin	0	
Litchi Moth	Teflubenzuron	18	Insect growth regulator
Nematodes	Cadusafos	0	Do not enter treated area within 1 day after treatment unless wearing protective clothing.
	Fenamiphos	70 (SA)	
	Furfural (aldehyde)	0	Do not use on clay soils. READ LABEL CAREFULLY!!

Actives registered for control of Litchi diseases

DISEASE	ACTIVE INGREDIENT	PHI (Days)	Notes
Post harvest decay	Fludioxonil	1	
	Prochloraz zinc complex (imidazole)	0	NOT TO BE USED FOR EXPORT FRUIT
	Sulphur	0	Fresh litchis ONLY
Soil Fungi	Furfural (aldehyde)	0	Do not use on clay soils. READ LABEL CAREFULLY!!
Anthracnose (Colletotrichum spp.)	Azoxystrobin	1	NOT TO BE USED FOR EXPORT FRUIT
Rust (Puccinia spp)	Azoxystrobin	1	NOT TO BE USED FOR EXPORT FRUIT
Cercospora leaf spot (Cercospora spp.)	Azoxystrobin	1	NOT TO BE USED FOR EXPORT FRUIT
Powdery mildew (Erysiphe spp.)	Azoxystrobin	1	NOT TO BE USED FOR EXPORT FRUIT

Registered Herbicides – ALL CROPS

Active Ingredient	PHI (Days)	Time of application
Carfentrazone-ethyl	0	Post Emergence
Clethodim	28	Post Emergence
Cycloxydim	40	Post Emergence
Dazomet	Safety test	Pre Emergence
Diuron	0	Post Emergence
Glufosinate ammonium	0	Post Emergence
Glyphosate (various salts)	0	Post Emergence
Halosulfuron	0	Post Emergence
Paraquat dichloride	0	Post Emergence
Propaquizafop	40	Post Emergence
S-metolachlor	0	Post Emergence
Terbuthylazine	0	Pre Emergence

CRITICAL GAPS IN PEST & DISEASE MANAGEMENT

- **Thrips**
- **Scale**
- **False codling moth**

A number of new chemicals for the control of Thrips, scale and False codling moth have recently been registered for control of Thrips, Scale and FCM.

There is a need for improved methods of monitoring and integrated management of these pests.

CRITICAL GAPS IN PEST & DISEASE MANAGEMENT

- **Post harvest fungicides**

There is pressure from export markets to reduce the use of post harvest fungicide treatments and some active ingredients are under review.

Alternatives, including biological control, are required.

Thank you

