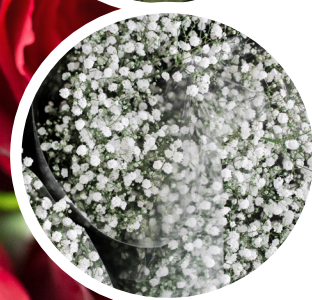




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AMIRAN GROWER'S GUIDE

ORNAMENTALS

(2022-2023)

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Welcome remarks from the Managing Director

Kenya is one of the major exporters of cut flowers across the world. Popular flowers such as roses, carnations and lilies as well as decorative plants are grown primarily for export. It is estimated that over 500,000 people, including over 100,000 flower farm employees depend on the floriculture industry which impacts over 2 million livelihoods in Kenya.

We are proud to be among the leading partners to flower farms for a period of close to 60 years. We are continuously pioneering solutions for the floriculture industry with high quality brands while providing world class service & support which is backed by our knowledgeable and skilled experts in the field. Alongside this, with our history of firsts in Greenhouses and Drip Irrigation, supported by Chemicals, Fertilizers, Propagation and Seeds, we have become the “one-stop shop” for Kenyan farmers’ agricultural needs.

True to our pledge of being a trustworthy and reliable partner, our Chemicals and Fertilizers department has persistently introduced a line of crop nutrition, crop protection and post-harvest products, enabling great success for the flower industry.

Sourced from trusted world-class leaders in the industry, our products conform to global and local standards – ensuring that they are clearly and indelibly marked to easily differentiate them from counterfeit and adulterated products.

Dave Govender

ORNAMENTAL DISEASES



Downy mildew

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Powdery mildew

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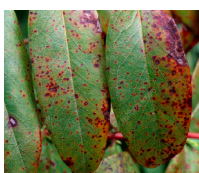
Botrytis

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Bacterial Spots

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Rust

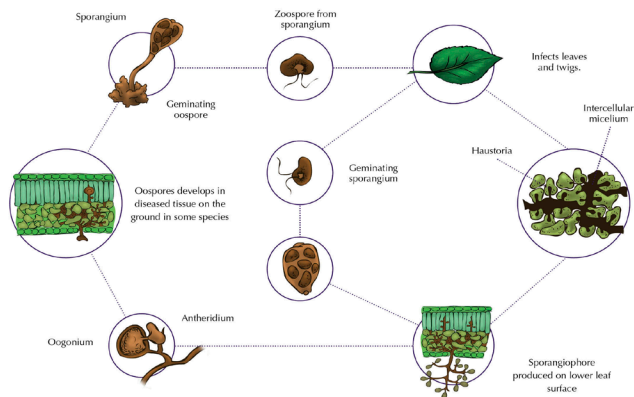
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DOWNY MILDEW

Downy mildew is highly destructive and fast spreading disease of roses whose infection can escape being noticed until ideal conditions for sporulation.

The fungus is an obligate biotrophs that survives as mycelium or oospores in or on plant parts just to resume growth under favorable conditions to produce spores within a period of 3 days. The spores are spread by wind or water and germinate on leaf or other plant surfaces.

Prophylactic downy mildew programs have proved to be more efficacious and cost effective as opposed to reactive approach which in most cases results to total loss of the crop.



DOWNY MILDEW PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	RATE OF USE / HA	RESISTANCE	REMARKS
AGRIXYL	Metalaxyl 70g/L + Mono & Di-potassium salts of phosphoric acid 400g/L	Parijat, India	4+P7	2.5L	High Risk	Systemic/Curative
AMIDIL	Metalaxyl-M-40g/Kg + 640g/Kg Mancozeb	Syngenta, Switzerland	4+M03	2.5Kg	High Risk	Systemic/Curative
ATMOS	Cyazofamid 200g/L	Sineria, China	21	0.5Kg-0.75L/Ha	Medium Risk	Protective/Curative
BIGO	Fluazinam 200g/L + Dimethomorph 200g/L	Adama, Israel	29+40	0.75-1L	Low to Medium Risk	Protective /Curative
EMTHANE	Mancozeb 800g/Kg	Sabero Organics, India	M03	2.5Kg	Low Risk	Contact/Protective
FOLPAN	Folpet 500g/L	Adama Israel	M0 3	2L	Low risk	Contact /Protective
FOSTONIC	Fosetyl-Aluminium 833.3g/Kg	Arysta, Belgium	33	Drench: 3Kg	Low Risk	Systemic/ Protective
INFINITO	Fluopicolide+62.5g/L+ Propamocarb hydrochloride 625g/L	Bayer, Germany	43+28	1.2-1.5L	Medium risk	Early Curative
METAPROP	Mefenoxam 15% + Propamocarb HCL 10%	Sineria, China	4+28	1.5-2Kg Drench 2-3Kg	High Risk	Systemic/ Curative/ Protectant
MELODY DUO	Propineb 600g/Kg + Iprovalicarb 90g/Kg	Bayer, Germany	M03+40	2.5Kg	Low to Medium Risk	Systemic/ Curative
NOPATH	Vegetable oil extract	Koppert, Netherlands	U	Drench 2L	U	Biological
PROPLANT	Propamocarb hydrochloride 722g/L	Arysta, Belgium	28	Foliar 1.5L Drench 3L	Low to Medium Risk	Systemic/ Early Curative
PROXANIL	Cymoxanil 50g/L + Propamocarb HCl 400 g/L	Arysta, Belgium	27+28	2L	Low to Medium Risk	Systemic/ Curative
REVUS	Mandipropamid 250g/Kg	Syngenta Switzerland	40	0.6 L	Low to medium risk	Protective /Curative
SPHINX EXTRA	Folpet 600g/kg + Dimethomorph 113g/kg	Adama, Israel	M0 3+40	2.0-2.5Kg	Low to medium risk	Protective /Curative



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ATMOS 200SC

Cyazofamid 200g/lit SC

- ✓ Inhibits all stages of the oomycete fungi biological cycle.
- ✓ Prevents secondary infections due to its effective inhibition of zoospore formation.

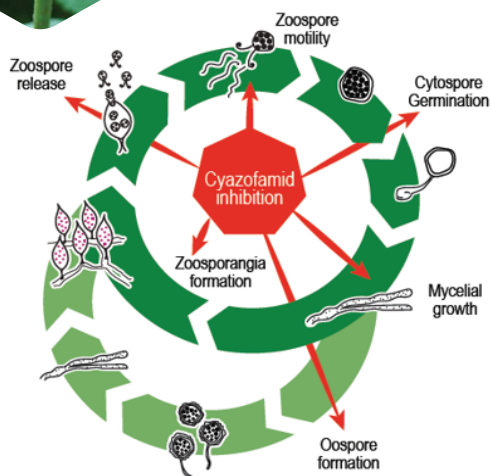


Characteristics

- Unique Mode of Action.
- Safe on Beneficials – IPM Compatible.
- Excellent rain fastness.
- No phytotoxicity.
- Safe toxicological profile.

The Benefits to the grower

- Excellent protective and curative action.
- Effective against strains resistant to other chemical classes.
- Secures the young maroon shoots against secondary infection.
- Long lasting protection.
- Value for money with low application rates.



Get in Touch

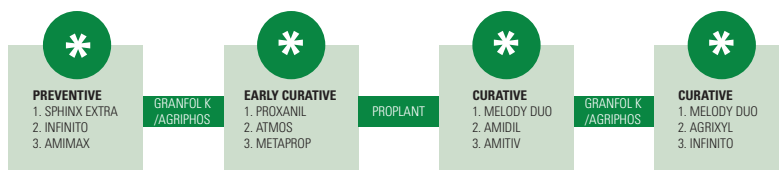
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Nairobi Kenya.

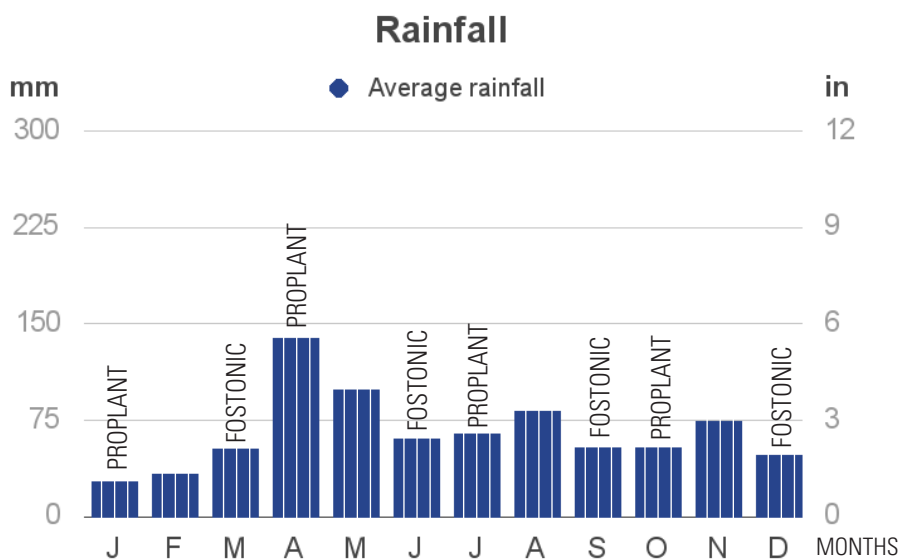
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SPRAY PROGRAM



DRENCHING PROGRAM



Agriphos and **Granfol K** are drenched at a minimum interval of 2 weeks



MORE POWER
**HIGHER
 QUALITY**
 EVERY FLOWER COUNTS

A systemic fungicide providing faster, more effective and longer-lasting control of Powdery Mildew and Rust on Ornamental Plants.

Active Ingredient

Solvit® is an Emulsion Oil in Water formulation containing 125 g/l fenpropidin and 50 g/l penconazole.

Mode of Action

Solvit® provides excellent preventive and curative activity against powdery mildew and rust diseases of ornamental plants.

Fenpropidin is a member of the piperidine group of fungicides (FRAC code 5) and Penconazole belongs to the triazole group of fungicides (FARC code 3). The two active ingredients in Solvit® both inhibit sterol biosynthesis but at different sites. The interference with the ergosterol products results in disruption of mycelial growth and fungal development on the plant surface and within the plant. Leaf penetration and plant tissue infection are reduced and haustoria formation is inhibited, which interrupts the disease cycle.

Fenpropidin and Penconazole have a high translaminar activity and are absorbed rapidly by the leaves and green parts of the plants. Inside the plant, Fenpropidin and Penconazole are translocated acropetally (upwards within the xylem) resulting in a good distribution within the leaf and other treated plant parts. It results in faster, more effective and longer-lasting control of powdery mildew and rust.

Use Recommendations

Crop	Target	Rate of use
Greenhouse and Outdoor grown Roses, Carnations and other Ornamentals	Powdery Mildew & Rust	0.75 - 1.0 l/ha

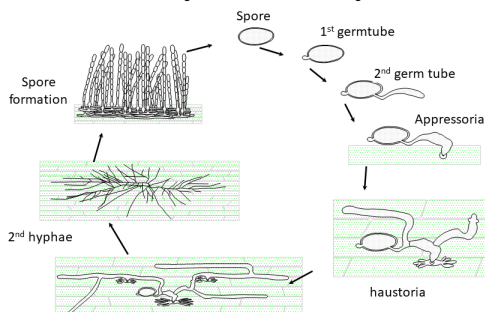
POWDERY MILDEW

Powdery mildew is a disease of cool, damp nights that are followed by warm dry days caused by a fungus - *Podosphaera Panosa*.

In greenhouses, powdery mildew grow continuously as conspicuous white growth mycelia that affects all the aerial parts of the plant and if left uncontrolled, it can quickly become an epidemic.



Powdery Mildew life cycle

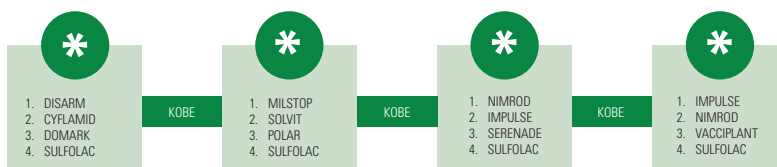


An example of Powdery Mildew in life cycle (10-14 days)

POWDERY MILDEW PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	RATE OF USE / HA	RESISTANCE	REMARKS
DISARM	Fluoxastrobin 480g/L	Arysta, France	11	0.3L	High Risk	Systemic/Curative
DOMARK	Tetraconazole 40g/L	Isagro, Italy	3	0.75L	Medium Risk	Systemic/Preventive/ Early Curative
IMPULSE	Spiroxamine 500g/L	Bayer, Germany	5	0.75L	Low to Medium Risk	Systemic/Preventive/ Eradicant
KOBE	Chrysophanol parientis 12g/L	Sineria, Holland	NC	1.5L	U	Preventive
MILSTOP	Potassium Carbonate 850g/Kg	Bio Works, USA	NC	1.5-2Kg	Low Risk	Contact/Preventive/ Early Curative
NIMROD	Bupirimate 250g/L	Adama, Israel	8	2.5L	Medium Risk	Systemic/Curative
POLAR	Polyoxin AL 50%	Gadot, Israel	19	0.25Kg	Medium Risk	Systemic Microbials/ Early Curative/Eradicant
SERENADE ASO SC	<i>Bacillus amyloliquefaciens</i> 13.96g/L	Bayer, Germany	BM 02	5 L	U	Protective
SOLVIT	Fenpropidin 125g/L + Penconazole 50g/L	Sygenta, Switzerland	5+3	0.75-1L	Medium Risk	Preventive/Curative
SULFOLAC	Sulphur 800g/Kg	Agrostulln GmbH, Germany	M2	2.5Kg	Low Risk	Contact/Multisite/ Protective
VACCIPLANT	Laminarin 42.4g/L	Arysta, France	P4	2L	U	Preventive/Early Curative

SPRAY PROGRAM



BOTRYTIS CINEREA

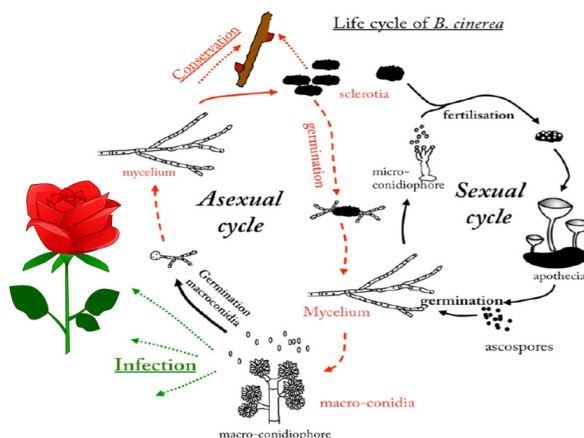
Botrytis cinerea can persist in greenhouses year round as mycelium, conidia or sclerotia on living or dead tissue and as sclerotia or conidia in infected soil and it takes only 4 to 6 hrs of leaf wetness to germinate.

Anything that moves soil or plant debris can spread the overwintering stages.

The effects of botrytis goes a long way from production, storage and the final end of the product.

Nutrient deficiencies especial Calcium and excess of Nitrogen favour its development.

Good cultural and crop husbandry practices, greenhouse hygiene, prophylactic chemical control and proper postharvest treatment are recommended for mitigating the economic losses of botrytis.



BOTRYTIS CINEREA PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	RATE OF USE / HA	RESISTANCE	REMARKS
DACONIL	Chlorothalonil 720g/L	Syngenta Switzerland	M5	1-1.5	Low risk	Preventive
DIFFERENCE	Difenoconazole 250g/L	Arysta, Belgium	3	0.5-0.75L	Medium Risk	Systemic/Curative
GOLDAZIM	Carbendazim 500g/L	Arysta, Belgium	1	1-1.5L	High Risk	Systemic/Curative
IPPON	Iprodione 500g/L	Arysta, Belgium	2	1-1.2L	Medium to High Risk	Contact/Curative
MERPAN	Captan 830g/Kg	Adama, Israel	M4	1.5Kg	Low Risk	Contact
POLAR	Polyoxin AL 50%	Gadot, Israel	19	0.25-0.5Kg	Medium Risk	Systemic/Curative
PYRUS	Pyrimethanil 404g/L	Arysta, Belgium	9	1.2L	Medium Risk	Systemic/Curative
SWITCH	Fludioxonil 375g/Kg + Cyprodinil 250g/Kg	Syngenta Switzerland	9+12	1 Kg	medium risk	Curative
TECTO	Thiabendazole 500g/L	Syngenta Switzerland	1	0.9	High risk	Systemic /Curative

SPRAY PROGRAM

PROPHYLACTIC
1. DIFFERENCE
2. GOLDAZIM
3. DACONIL

EARLY CURATIVE
1. PYRUS
2. POLAR
3. TECTO

CURATIVE
1. SWITCH
2. POLAR
3. IPPON

CURATIVE
1. POLAR
2. PYRUS
3. IPPON

SOIL BORNE PATHOGENS (RHIZOCTONIA, PYTHIUM, PHYTOPHTHORA & FUSARIUM)

Soilborne diseases are considered a major limitation to crop production. Soilborne plant pathogens such as Rhizoctonia spp., Fusarium spp., Verticillium spp., Sclerotinia spp., Pythium spp., and Phytophthora spp. can cause high yield loss.

They often survive for long periods in host plant debris, soil organic matter, free-living organisms or resistant structures like microsclerotia, sclerotia, chlamydospore or oospores. Accurate diagnosis of a particular disease is difficult due to the similarity in symptoms such as seedling damping-off, root blackening, root rot, stunting, wilting, yellowing, bark cracking and twig or branch dieback which in turn makes the disease harder to manage.

To control these disease outbreaks, conventional synthetic chemical fungicides and fumigants need to be applied at regular intervals throughout the growing season of the crop.

MANAGEMENT OF SOIL BORNE PATHOGENS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	DRENCHING RATE/HA	RESISTANCE	REMARKS
AGRIPHITE	Di-potassium phosphite 61%	Sineria, Holland	33	3-4L	Low Risk	Pythium and Phytiptthora
AGRIXYL	Metalaxyl 70g/L + Mono & Di-potassium salts of phosphoric acid 400g/L	Parijat, India	4+P7	2.5-3L	Low to High Risk	Pythium and Phytiptthora
FOSTONIC	Fosetyl AI 833.3g/Kg	Arysta, Belgium	U	3-5L	Low	Pythium and Phytiptthora
GOLDAZIM	Carbendazim 500g/L	Arysta, Belgium	1	2-5L	High Risk	Fusarium and Rhizoctonium
IPPON	Iprodione 500g/L	Arysta, Belgium	2	1.5-2.5L	Medium to High Risk	Fusarium and Rhizoctonium
MERPAN	Captan 83%	Adama Makhteshim Ltd, Israel.	M4	1.8-2Kg	Low	Pythium
METAPROP	Mefenoxam 15% + Propamocarb HCL 10%	Sineria, China	4+28	2-3Kg	High Risk	Pythium and Phytiptthora
PROPLANT	Propamocarb Hydrochloride 722g/L	Arysta, Belgium	28	3-5L	Low to Medium	Pythium and Phytiptthora
RIZOLEX	Tolclofos-methyl 500g/Kg	Sumitomo, Japan	14	10-15Kg	Low to Medium Risk	Rhizoctonia
TECTO	Thiabendazole 500g/L	Syngenta Switzerland	1	2L	High risk	Systemic /Curative
TRIANUM	Tricoderma harzianum Rifai Strain KRL-AG2 (T-22) 11.5g/Kg equivalent of 1x10 ⁹ cfu.g	Bioworks USA , Kop-perts B.V. netherlands	BM 02	1Kg	U	Monthly application of 1kg/ha



Our Knowledge, Your Success.

A Balton CP Company

Metaprop 25% WP

Mefenoxam 15% + Propamocarb HCL 10%

Your cost effective tool for the management of Downy mildew

Main advantages:

- **Protective and curative** action.
 - Quick penetration and uptake, **ensuring timely** control of the disease.
 - **Uniform distribution** into the plant tissues.
 - Excellent **rain-fastness**.
 - Effective against the **notorious soil borne pathogens**
- IPM compatible.



Rate of use:

Foliar application: 1.5 to 2Kg/Ha

Soil application: 2-3 Kg/Ha

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Serenade® Biological Fungicide Enhancing Crop Protection

Serenade®ASO biological fungicide is effective against Powdery Mildew. Based on the beneficial bacterium *Bacillus amyloliquefaciens* strain QST 713. **Serenade®ASO** fungicide reduces risk and complexity:

Effective against a wide range of diseases in a wide range of growing situations,

Highest safety standards and excellent IPM fit

Maximum application flexibility and easy crop management – often when no other tools are available Resistance management tool



AGROBACTERIA/BACTERIAL SPOTS

Crown gall caused by pathogenic *Agrobacterium tumefaciens* is one of the worrying rose diseases which affect both the quantity and quality of premium harvestable rose stems. The tumorous formation on the plants can cause a loss of up to 3 eyes for every 5 eyes which are expected to develop to harvestable stems. It is also known to be harbouring pests particularly the notorious False codling moth.

Some varieties are known to be more prone to the disease which is likely to spread fast in hydroponic production with recycling systems.



Pathogenic strains of *A. tumefaciens* may live saprophytically in soil for up to two years. When a nearby host plant is wounded near the soil line by insect feeding, transplant injury or any other means the bacterium chemotactically moves into the wound site and between host cells. These bacteria then stimulate the surrounding host cells to rapidly and irregularly divide leading to the formation of the galls which serve as a food reserve for the bacterium.

Remedial Methods

Proper sanitation measures aided by use of disinfectants, Synthetic Copper compounds and plant elicitors are well known to reduce the incidences of the disease as guided below:

AGROBACTERIA/BACTERIAL SPOTS PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	RATE OF USE / HA	REMARKS
FUNGURAN OH	Copper Hydroxide 50%	Urania, Germany	2.5Kg/Ha; Make a thick paste	Broad spectrum copper fungicide
KOBE	<i>Chrysophand Parientis</i> 12g/L	Sineria, Holland	2L/Ha Drench 1L/Ha Foliar Repeat for 3 weeks at 1 week interval	Plant elicitor
T.O.G. 6	Stabilized Chlorine in Sodium Dichloro-iso-cyanurate 55%	Gadot, Israel	1g/L	Disinfectant / Sanitizer

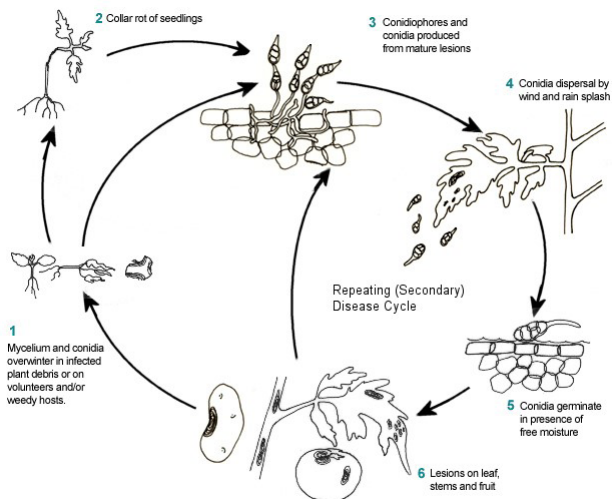
KOBE[®] 1.2 SL

**NOVEL BENEFITS
KOBE 1.2 SL**

- A new botanical extract with a unique mode of action
- Attacks the fungi at different target sites in their metabolic pathways
- Highly effective against powdery mildew as well as downy mildew, gray mold, and anthracnose
- An excellent IPM program compliance product
 - KOBE 1.2 SL is 100% biodegradable.
- Observed to be safe to *Phytoseiulus persimilis*, honey bees, livestock and the environment.
- Compatible with other pesticides
- Low MRL (Maximum Residue Level) index

ALTERNARIA LEAF SPOTS IN SUMMER FLOWERS

Several species of alternaria have a wide host range on perennial crops including: Gypsophila, Dianthus, Aster, Pelargonium, Iris, Helianthus, Coriopsis. The spores are produced on the plant surface and spread by splashing water, air movement or by moving infected plant materials. Regular fungicides application together with good irrigation management is necessary to reduce losses a susceptible host.



ALTERNARIA LEAF SPOTS PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	RATE OF USE / HA	RESISTANCE	REMARKS
AMICOP	Copper Oxychloride 50% Metallic Copper	Spiess Urania, Germany	M0 1	2-3Kg	Low Risk	Contact/Protective
DACONIL	Chlorothalonil 720g/L	Syngenta Switzerland	M5	1-1.5	low risk	Preventive
GOLDAZIM	Carbendazim 500g/L	Arysta, Belgium	1	1-1.5	High Risk	Contact/Protective
FUNGURAN OH	Copper Hydroxide 50% metallic copper	Spiess Urania, Germany	M0 2	2-3Kg	Low Risk	Contact/Protective
IPPON	Iprodione 500g/L	Arysta, Belgium	2	1-1.2L	Medium to High Risk	Contact/Curative
MERPAN	Captan 830g/Kg	Adama, Israel	M4	1.5Kg	Low Risk	Contact
POLAR	Polyoxin AL 50%	Gadot, Israel	4	0.25-0.5Kg	Medium Risk	Systemic/Curative
PYRUS	Pyrimethanil 404g/L	Arysta, Belgium	9	1.2L	Medium Risk	Translaminar/Curative

RUST IN SUMMER FLOWERS

Rust diseases are common fungal infections that affect a wide range of floricultural crops, including Carnation, hypericum, roses, Lilium, and more.

Rust caused by a specialized group of obligate fungi which means they can only grow on a living host. Rust fungi have several spore stages in their life cycles, however, the infection reduces plant health and vigor, flower production, and aesthetic value.

Symptoms:

Each type of Rust has its own distinctive symptoms and its own specific plant hosts. The disease often first appears as chlorosis on the upper surfaces of leaves. All rust fungi produce powdery masses of spores in pustules, typically on leaf undersides that are yellow, orange, purple, black or brown. Some Rust fungi produce pustules on upper leaf surfaces as well. Spores are easily spread on air or with splashing water. Lesions resulting in large areas of necrosis, leaf distortion and defoliation often follow.

RUST PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	FRAC CODE	RATE OF USE / HA	REMARKS
AMITIV	Azoxystrobin 250g/L	Syngenta, UK	11	0.5L	Contact / Systemic
EMTHANE	Mancozeb 800g/Kg	Sabero Organics Ltd., India	M0 3	2.5Kg	Contact / Protective, start early
DIFFERENCE	Difenoconazole 250 g/L	Arysta, Belgium	3	0.5-0.75L	Systemic / Curative
DOMARK	Tetraconazole 40g/L	Isagro, Italy	3	0.5-1L	Systemic / Curative
FOLPAN 500 SC	Folpet 500g/L	Adama Israel	M0 3	2L	Contact /Protective
FUNGURAN OH	Copper hydroxide 77%	Spieess Urania, Germany	M0 1	2.5Kg	Contact / Protective, start early
IMPULSE	Spiroxamine 500g/L	Bayer AG, Germany	5	0.75L	Systemic / Curative/ Eradicative
MERPAN	Captan 83%	Adama, Israel	M0 4	1.5Kg	Contact / Protective
MILSTOP	Potassium Carbonate 850g/Kg	Bio Works, USA	NC	2-2.5Kg	Contact/Preventive/ Early Curative
ORIOUS	Tebuconazole 250g/L	Adama, Israel	3	0.5-0.75L	Systemic / Curative
OTHELLO	Azoxystrobin 250g/Kg	Sineria, China	11	0.5Kg	Translaminar / Curative
OTHELLO TOP	Azoxystrobin 200 g/L Difenoconazole 125 g/L	Sineria, China	11	0.5L	Translaminar / Curative

NOVEL FUNGICIDES

MILSTOP SP Potassium Bicarbonate 85.0%



For the control of powdery mildew and other diseases in ornamentals and organic farming.



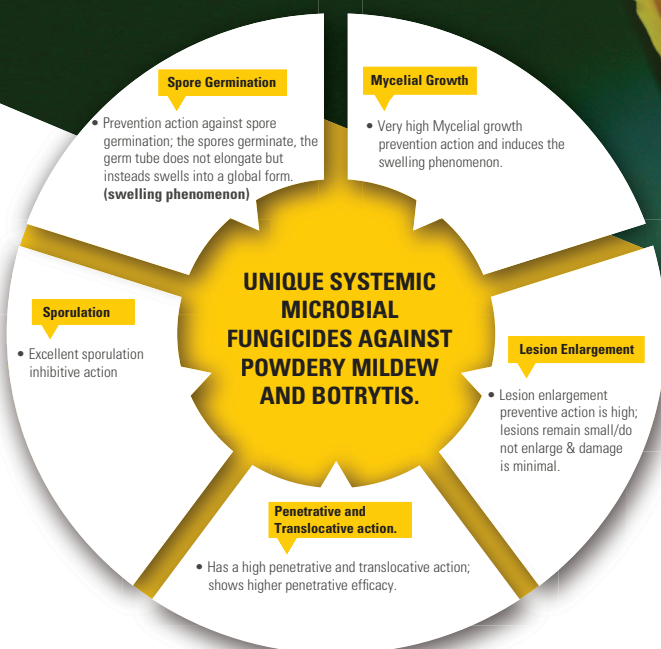
Our Knowledge, Your Success.

A Balton CP Company

Polar[®] 50% WG

UNIQUE SYSTEMIC MICROBIAL FUNGICIDES AGAINST POWDERY MILDEW AND BOTRYTIS

Use Plant Protection Product Safely, always read the label and product information before use.



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P.O. Box 30327-00100, Nairobi
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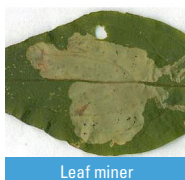


ORNAMENTAL PESTS



Mites

Page 19



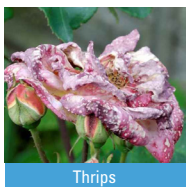
Leaf miner

Page 19 & 24



Mealybug

Page 20



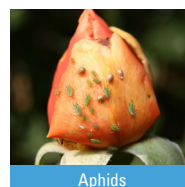
Thrips

Page 21



Whiteflies

Page 23



Aphids

Page 23



Caterpillars

Page 24



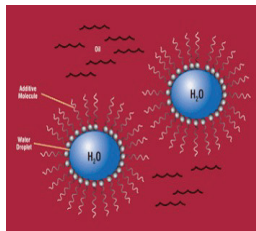
False Codling Moth

Page 24

SAF-T-SIDE™ 800 EL

A broad-spectrum insecticide/acaricide for the control of Spider Mites, Aphids, White Flies & Mealybugs

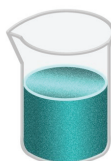
Saf-T-Side® is an Inversed Emulsion : Water in oil.



Saf-T-Side® 80% oil 20% water and emulsifiers



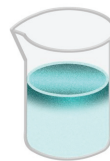
Saf-T-Side® in a tank mix



Saf-T-Side

Saf-T-Side® requires much less agitation to maintain a homogeneous mix.

Saf-T-Side® is an ideal tank mix partner and has excellent compatibility with pesticides labelled for use with oils



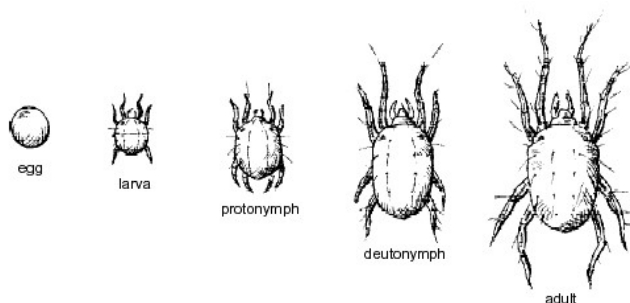
Conventional Oil

MITES

Mites are extremely small arachnids that feed on hundreds of plants and are related to spiders and ticks that feed on the underside of the leaves causing webbing over blooms, stems, leaves and even death of the plant during severe infections. They prefer hot dry, dusty and poor ventilated conditions.

Management

IPM programs that include overhead irrigation management, greenhouse climate control, natural enemies (predatory mites) and compatible miticides will give good control.



MITES PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	RATE OF USE / HA	REMARKS
AMISIL	Polyether Trisiloxane/ Organosilicone 800g/L	Jiangyin Milagro, China	U	0.6L	Adjuvant/Miticides
APOLLO	Clofentezine 500g/L	Adama, Israel	10A	0.7L (0.5ml/L)	Ovicide/Immature Stages
AVIRMEC	Abamectin 18g/L	Sineria, China	6	0.5L	Translaminar/Active feeding stages
KANEMITE	Acequinocyl 150g/L	Agro-Kanesho, Japan	20B	0.4L	Contact/All Stages
KONZANO 50 OD	Abamectin 50g/L	Sineria, China	6	0.15L	Ovicide/Immature Stages
LEVO	Oxymatrine 2.4%	Sineria, China	U	0.8-1.2L	Contact/Antirepellant/Antifeedant
MERCUR	Diafenthiuron 500g/L	Sineria, China	12A	0.6-0.8L	Contact
NEUDOSAN	Pottassium salts of natural fatty acids, 510 g/L	W.Neudorff GMBH, Germany	U	3L	Good coverage is preferred for excellent efficacy
NISSORUN	Hexythiazox 100g/L	Nippon Soda, Japan	10A	0.5L	Ovicide/Immature Stages
SAFT T SIDE	Paraffinic Oil 80%	Brandt, USA	U	3-4L	Good coverage is preferred for excellent efficacy

SPRAY PROGRAM

✱

1. AMISIL
2. NISSORUN + AMISIL
3. APOLLO + AMISIL
4. AMISIL

✱

1. AMISIL + NISSORUN
2. MERCUR
3. AMISIL + APOLLO
4. KONZANO

✱

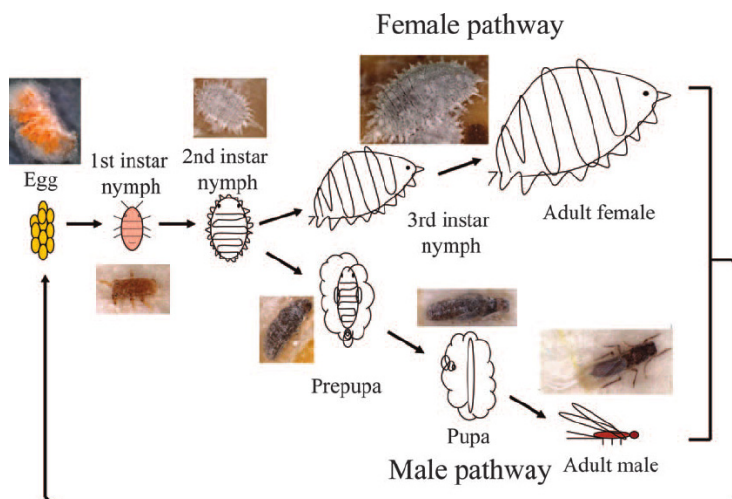
1. NEUDOSAN
2. NEUDOSAN + NISSORUN
3. KANEMITE
4. SAFT T SIDE

✱

1. AVIRMEC + APOLLO
2. KANEMITE
3. MERCUR + NISSORUN
4. KONZANO

MEALYBUGS

Mealybugs are slow-moving, small, oval insects that are covered with a white, cottony wax. They are tropical insects that are typically only found on perennial foliage plants, and rarely on flowering or bedding plants. They can infest all plant parts including the roots. Mealybugs are related to scales. The citrus mealybug (*Planococcus citri*) is the most common greenhouse species and is the most damaging.



MEALYBUGS PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	RATE OF USE/HA	REMARKS
BOTANIGARD ES	<i>Beauveria basiana</i> (GHA strain 11.3%)	Laverlam Cooperation, USA	UNF	2-3L	Contact, biological insecticide
CHESS	Pymetrozine 500g/kg	Syngenta, Switzerland	9B	0.4-0.6Kg	Systemic
CLOSER	Sulfoxaflor 240g/l	Dow, USA	4C	0.12L	Systemic
GLADIUS	Flometoquin 100g/L	Nippon Kayaku, Japan	34	0.75L	Contact
GOLAN	Acetamiprid 200g/l	Sineria, China	4A	0.2-0.3Kg	Systemic
HOTSHOT	Imidacloprid 700g/kg	Sulphur Mills, India	4A	0.15Kg	Systemic/Drenched
KOHINOR	Imidacloprid 200g/l	Adama, Israel	4A	0.5L	Systemic
RAVENNA	Thiocyclam Hydrogen Oxalate 500g/kg	Sineria, China	14	0.5-0.75lg	Contact, Stomach, Poison
SAF-T-SIDE	Paraffinic oil 80%	Brandt, USA	U	3-4L	Suffocant

SPRAY PROGRAM

- Treatment interval is dependent on infestation level and others factors like weather and crop density
- Use at least 3 different mode action
- Heavy infestation make at least 3 consecutive spray for knockdown
- On low infestation, make treatment once a month

1. CLOSER
2. CHESS
3. GOLAN

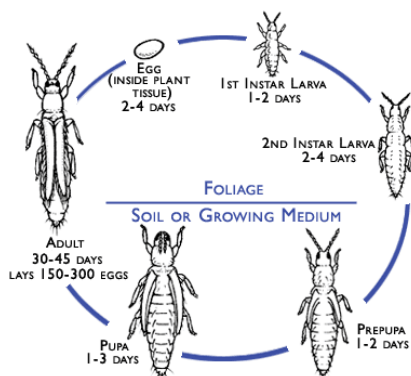
1. GOLAN
2. TEPPEKI
3. SAF-T-SIDE

1. SAF-T-SIDE
2. RAVENNA
3. BOTANIGARD

1. CLOSER
2. CHESS
3. KOHINOR

THRIPS

The western flower thrips is a highly polyphagous herbivore and one of the most important pests of many crops across the world. Thrips inflict plant damage through oviposition, which produces aesthetic damage to fruiting crops, and through the feeding action of adults and larvae, which scars foliage, flowers and fruits. The propensity for generalized metabolic detoxification to confer resistance is thought to derive from its polyphagous nature and the inherent need to detoxify plant allelochemicals.

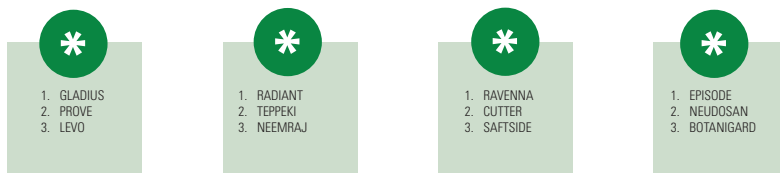


THRIPS PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	RATE OF USE/HA	REMARKS
BOTANIGARD	<i>Beauveria bassiana</i> strain GHA 11.3% w/w	Laverlam Cooperation, USA	UNF	1-3L	Stable mycoinsecticide of high spore count
CALYPSO	Thiacloprid 480g/L	Bayer, Germany	4A	0.2-0.4L	Systemic and contact
CUTTER	Acetamiprid 64g/L + Emamectin Benzoate 48g/L	Sineria, China	6	0.5L	Translaminar
EPISODE	Spinosad 480g/L	Sineria, China	5	0.2L	Contact, Ingestion
GLADIUS	Flometoquin 100g/L	Nippon Kayaku, Japan	34	0.75L	Contact
KOHINOR	Imidacloprid 200g/L	Adama, Israel	4A	0.5L	Systemic and contact
LEVO	Oxymatrine 2.4%	Sineria, China	U	0.8-1.2L	Stomach poison, Antifeeding, Repellant
NEEMRAJ SUPER	Azadirachtin 0.3%	Neem India	U	0.75L	Repellant, Antifeedant, Antimoulting
NEEMRAJ 300	Azadirachtin 0.03%	Neem India	U	1L	Repellant, Antifeedant, Antimoulting
NEUDOSAN	Potassium salts of natural fatty acids	W.Neudorff GMBH, Germany	U	3-4L	Contact
PROVE	Emamectin Benzoate 19.2g/L	Sineria, China	6	0.6L	Contact, Translaminar
RADIANT	Spinetoram 120g/L	Dow Agrosience	5	0.3L	Contact, Ingestion
RAVENNA	Thiocyclam Hydrogen Oxalate 500g/kg	Sineria, China	14	0.5-0.75lg	Contact, Stomach, Poison
SAF T SIDE	Paraffinic Oil 800ml/L	Brandt, USA	U	3-4L	Contact
TEPPEKI	Flonicamid 500g/Kg	ISK, Japan	29	0.14Kg	Systemic, Contact, Stomach Poison
TRIGGER	Lamba-cyhalothrin 5%	Sineria, China	3A	0.35L	Pyrethroid, Nerve action

SPRAY PROGRAM

The principal goal for a spray program is to rotate chemistries among Active Ingredients as a rule of thumb, expose a single generation of thrip to one active ingredient. The rationale for this approach is that the intense use of one insecticide within one pest generation would suppress the population, and the selection pressure would be counteracted in the next generation by the use of an alternative chemistry.



General cocktails for cleaning programs

Prove + Saftside

Prove + Neemraj

Golan + Saftside

Prove + Levo.

Teppeki + Radiant

EPISODE[®] 480SC

LAST GENERATION, HIGHLY ACTIVE INSECTICIDE,
DERIVED FROM NATURALLY OCCURRING SOIL FUNGI
AGAINST LEPIDOPTERA PESTS AND THRIPS

PRODUCED BY FERMENTATION
OF NATURALLY OCCURRING BACTERIA
(*SACCHARPOLYSPORA SPINOSA*)

Excellent
environmental profile

Spinosad TC is approved
for use in organic agriculture

Low toxicity to people
and other mammals

Highly effective against
pests difficult to control

Unique mode of Action:
IRAC Group 5

IPM
Compatible

Safe to most common
beneficial organisms

APHIDS & WHITEFLIES

Aphids:

About 30 different species of aphids can be found, depending on the crop. Aphids are generally 1-2 mm long, soft-bodied insects with long legs, long antennae and a pair of tube-like structures call cornicles projecting from the posterior end. Aphids may occur in large colonies on new growth, the base of buds, or the undersides of mature leaves. There are many species of aphids that range in color from greenish-yellow to very dark green, dark brown to black and even pink. Some have wings, which are transparent with very few veins and are held vertically over the body when not in use.

Whiteflies:

There are two main species of whiteflies that may be encountered the greenhouse whitefly (*Trialeurodes vaporariorum*) and the Silverleaf whitefly (*Bemisia tabaci*). They can be distinguished by the way in which they hold their wings when at rest on the plant: silver leaf whiteflies hold their wings tilted against the surface of the plant like a tent while the greenhouse whitefly holds their wings flat, parallel to the leaf surface and appear to be broader. are soft-bodied, Adults are about 1-1.5 mm in size, somewhat triangular in shape and her color is white to yellow. Their bodies are covered with a powdery waxy material. winged insects closely related to aphids and mealybugs. They can be found in almost any region, and are often found in clusters on the undersides of leaves.

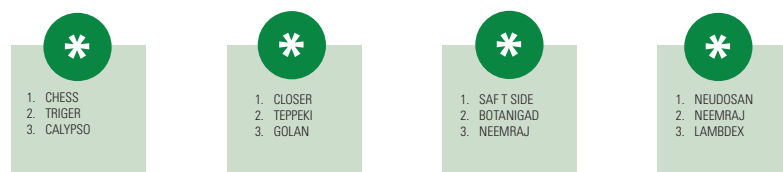
Aphids and Whitefly Damage:

Whiteflies use their piercing, needle-like mouthparts to suck sap from the phloem, the food-conducting tissues in plant stems and leaves. Large populations can cause leaves to turn yellow, appear dry, or fall off plants. Like aphids, whiteflies excrete a sugary liquid called honeydew, so leaves may be sticky or covered with black sooty mold that grows on the honeydew.

APHIDS & WHITEFLIES PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	RATE OF USE/HA	REMARKS
CALYPSO	Thiacloprid 480g/L	Bayer, Germany	4A	0.2-0.4L	Broad spectrum with systemicity properties
CHESS	Pymetrozine 500g/Kg	Syngenta, Switzerland	9B	0.4-0.6Kg	Antifeedant/Antioviposition
CLOSER	Sulfoxaflor 240g/L	Dow, USA	4C	0.12L	Systemic
GLADIUS	Flometoquin 100g/L	Nippon Kayaku, Japan	34	0.75L	Contact
GOLAN	Acetamiprid 200g/L	Sinieria, China	4A	0.3Kg	Systemic, Translaminar
NEEMRAJ 3000 SUPER	Azadiractin 0.3%	Neem India	U	0.75L	Contact/Antimoulting/Repellant
NEEMRAJ 300	Azadiractin 0.03%	Neem India	U	1L/Ha	Contact/Antimoulting/Repellant
NEUDOSAN	Potassium salts of natural fatty acids 510g/L	W.Neudorff GMBH, Germany	U	3L	Contact/All stages
RAVENNA	Thiocyclam Hydrogen Oxalate 500g/kg	Sinieria, China	14	0.5-0.75lg	Contact, Stomach, Poison
SAF T SIDE	Paraffinic oil 80%	Brandt, USA	U	3-4L	Suffocation
TEPPEKI	Flonicamid 500g/Kg	ISK, Japan	29	0.14Kg	Antifeedant
TRIGGER	Lamba-cyhalothrin 5%	Sinieria, China	3A	0.35L	Pyrethroid, Nerve action

SPRAY PROGRAM

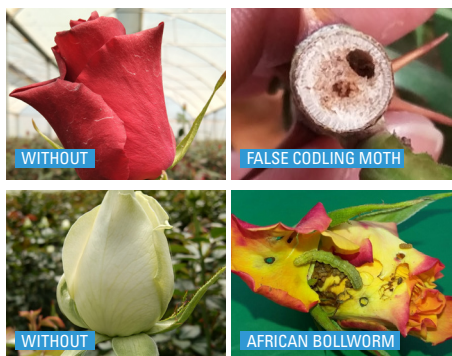


CATERPILLARS

Caterpillars are the larval stage of a butterfly or moth that belongs to the order Lepidoptera.

Members of this group are considered perfect insects i.e. they undergo complete metamorphosis.

In flowers, the most common species are *Helicoverpa Armigera* (African bollworm), and *Thaumatotibia Leucotreta* (false codling moth).



CATERPILLARS PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	RATE OF USE/HA	REMARKS
BELT	Flubendiamide 480g/l	Bayer, Germany	28	0.075-0.1L	Contact
BIO T PLUS	<i>Bacillus thuringiensis</i> Kurstaki 36,000IU	Sineria, India	11A	0.5Kg	Contact
EPISODE	Spinosad 480g/L	Sineria, China	5	0.2L	Contact, Ingestion
INDOX	Indoxacarb 150g/l	Sineria, China	22A	0.25L	Contact
LEVO	Prosuloxymatrine 2.4%	Sineria, China	U	0.5L	Contact, Antirepellant & Antifeedant
PROVE	Emamectin Benzoate 19.2g/l	Sineria, China	6	0.6L	Contact & translaminar
RADIANT	Spinetorin 120g/l	Dow, USA	5	0.25L	Contact & translaminar
RIMON SUPRA	Novaluron 100g/l	Adama, Israel	15	0.5L/Ha	Contact IGR
TRIGER	Lambda-cyhalothrin 5%	Sineria, China	3A	0.35L	Pyrethroid, Nerve action

SPRAY PROGRAM

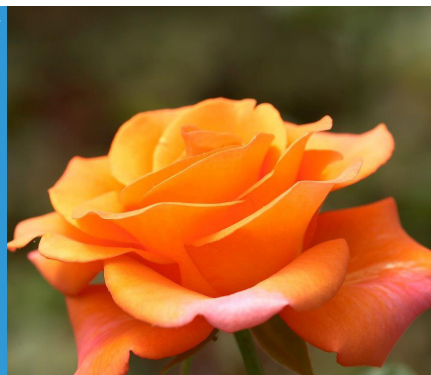
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ACTISOIL *Azospirillum lipoferum* + *Bacillus megaterium* + *Bacillus pumilis*

The super enriched biofertilizer with a capacity of fixing atmospheric nitrogen, synthesis of phytohormones and plant tolerance to biotic and abiotic stress.

Benefits:

- Fast acting plant food providing nutrients when plants need it most
- Promotes vigorous plant growth
- Promotes plant health
- Ideal for greenhouses and open fields
- Drench 2Kg/Ha after every 2 weeks, 3 consecutive times



NOVEL INSECTICIDES

NEUDOSAN 515 g/l potassium salts of natural fatty acids



Liquid insecticide to control sucking insects and spider mites on ornamental plants, vegetables and fruits.

LEVO Prosuler Oxymatrine 2.4%



A new Biological broad spectrum Insecticide



A new generation broad spectrum Bio-Insecticide from natural derivatives Safora Flavescens plant against Thrips, lepidopteran pests including Diamondback Moth, False Codling Moth, Mites and Aphids for use in Vegetables and ornamentals.

Usage rate 0.8 – 1 L/Ha

BOTANIGARD *Beauveria basiana* (GHA strain 11.3%)



Botanical Insecticide with:

- a novel and unique formulation (CDS),
- high spore concentration (2 X 10¹² UFC/ Quart),
- stability (2 year shelf life),
- viability (Above 95%)

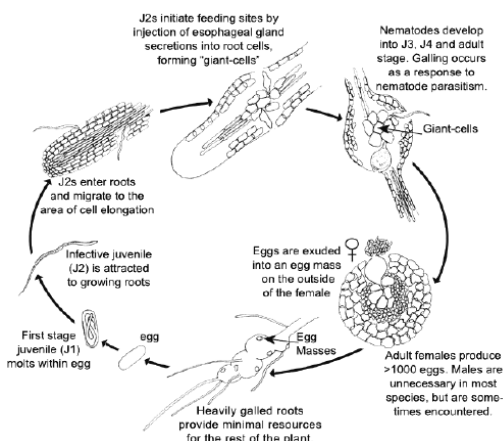
NEMATODES

Meloidogyne species constitute the major nematode problem in crop production. The most common species is *M. incognita*, which causes considerable losses in many crops. Nematodes feed on all parts of the plant, including roots, stems, leaves, flowers and seeds.

Often nematodes withdraw the contents of plant cells, killing them. When this type of feeding occurs, large lesions are formed in the plant tissue. Some nematodes do not kill the plant cells they feed upon but “trick” the plant cells to enlarge and grow, thus producing one or more nutrient-rich feeding cells for the nematode.

These feeding cells enable long term feeding associations, and form by repeated nuclear division in the absence of cell division (giant cells) or by the incorporation of adjacent cells into a syncytium formed by the breakdown of neighboring cell walls. Collectively, nematodes can feed on almost any plant cell type, and form a variety of feeding cell types. The number of feeding cells can vary from one to a half dozen depending on the nematode species.

Many plant-parasitic nematodes feed on the roots of plants. The feeding process damages the plants root system and reduces the plants ability to absorb water and nutrients. Typical nematode damage symptoms are a reduction of root mass, a distortion of root structure and/or enlargement of the roots.



NEMATODES PRODUCTS

PRODUCT	ACTIVE INGREDIENT	SOURCE	IRAC CODE	WHO CLASS	REMARKS
AMINEM	Carvacrol 2% + Chitinase enzymes	Arvensis, Spain	U	II	Bionematicide that encourages growth of saprofitic nematodes.
CROPGUARD	Furfural 800g/L	Illovo, South Africa	U	II	Can be done in two split applications at 3 to 4 weeks intervals.
KONZANO	Abamectin 50g/L	Sineria, China	6	II	Nematicide from natural fermentation of microorganisms.
NEEMRAJ SUPER	Azadirachtin 0.3%	Neem India	U	U	Interferes with the production of vital hormones for metamorphosis.
VELUM PRIME	Fluopyram 400g/L	Bayer, Germany	7	U	Secondary advantage on powdery mildew.

DRENCHING PROGRAM

Programs for nematodes control are usually based on the results of nematodes count as guided below:

SCENARIO	PARAMETER	UNIT	COUNT	PRODUCT	USAGE/RATE	REMARKS
1	SAPROFAGIC MELOIDOGYNE	100ml 100ml	>500 >300	Velum Prime	0.5L/Ha, 2 consecutive monthly application	Repeat after 6 months.
2	SAPROFAGIC MELOIDOGYNE	100ml 100ml	>500 >300	Konzano	4L/Ha	Nematicide from natural fermentation of microorganisms.
3	SAPROFAGIC MELOIDOGYNE	100ml 100ml	<200 <299	Cropguard	35L/Ha	1st application: 20L/ha, 2nd application: 15L/ha after 4-3weeks.
4	SAPROFAGIC MELOIDOGYNE	100ml 100ml	<50 <200	Aminem	15L/Ha per month for 2 consecutive monthly application	Bionematicide that encourages growth of saprofitic nematodes.
5	SAPROFAGIC MELOIDOGYNE	100ml 100ml	<50 <200	Neemraj Super	4L/Ha per month	Monthly application.



POST HARVEST SOLUTIONS

Post harvest is the final stage of production and any losses experienced at this point are more severe as they represent wastage of all resources involved during production.

The main objective of post harvest is to maintain good quality of the harvested produce in form of shelf life, length, uniform opening, weight and length.

Causes of Post Harvest losses

- Micro organisms
- Vascular blockage
- Poor water quality
- Senescence
- Improper harvesting or cut stage

**QUALITY CANNOT
BE IMPROVED
AFTER HARVEST
BUT MAINTAINED!**

POST HARVEST TREATMENT OF ROSES

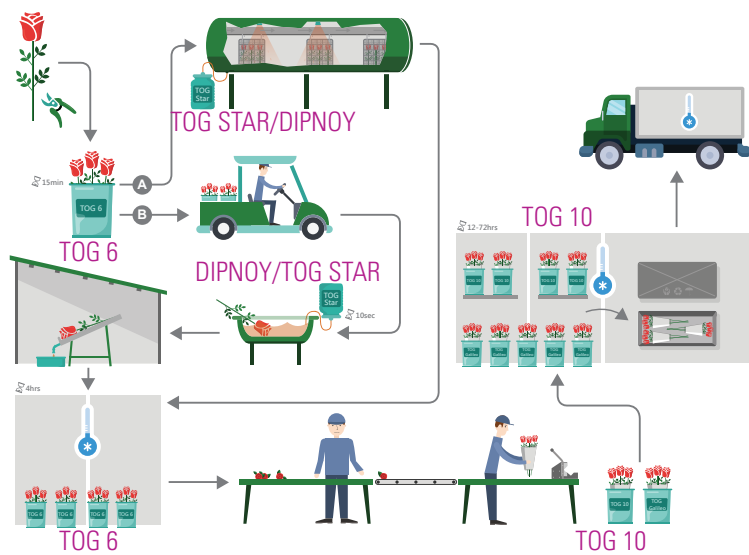
Post harvest challenges of roses are:

- Sanitation
- Growth of micro-organisms
- Blockages of the vascular bundles
- Flower opening

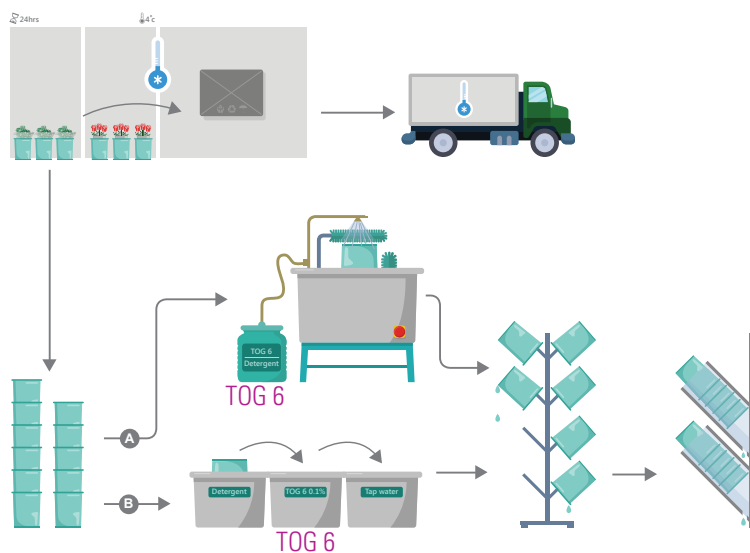
Micro organisms effects can be as a result of bacteria blocking the vascular or diseases which causes immense losses

PRODUCT 1	A.I	PRODUCER	RATE/L
T.O.G 6	Stabilized Chlorine in Sodium Dichloro-iso-cyanurate 55%	Gadot Israel	0.09g
T.O.G 10	Aluminium sulphate, Quaternary ammonium, Citric acid and Surfactants	Gadot Israel	1ml
DIPNOY	Imidazole + Acrylic Co-polymer	Greenoy Israel	5ml- dipping

ROSE HANDLING



SANITIZATION PROCEDURE





POST HARVEST TREATMENT OF GYPSOPHILA

Post harvest challenges of gypsophila are:

- Flower opening
- Senescence
- Micro-organisms
- Alternaria / Botrytis

PRODUCT 1	A.I	PRODUCER	RATE/L
T.O.G 3	TBZ, 8-Hydroxyquinoline, QAC	Gadot Israel	1-1.5ml
T.O.G 75	Stabilized Silver thiosulphate (8g/L Silver)	Gadot Israel	1.5ml
SUGAR	Sugar	Commodity	5% Solution

POSTHARVEST TREATMENT FOR LIPIDIUM

Harvested flowers are put in TOG 10 solution and transported to the pack house.

Flowers are treated by dipping in a solution of TOG L101 for about 5-10 seconds and dried by spreading them on a slanting table before grading, sleeving and packing according to customer's specifications.

Where holding of processed flowers is required, fresh TOG 10 solution should be used.

PRODUCT	SPECIFICATION	SOURCE	RATE	REMARKS
T.O.G 10	Aluminium sulphate, Quaternary ammonium, acidifiers and surfactants	Gadot Agro	1ml	Hydration solution to prevent wilting
T.O.G. L 101	Benzyl Adenine, Ethoxylated Alcohol and Acidifier	Gadot	5ml	Dipping solution to prevent yellowing.

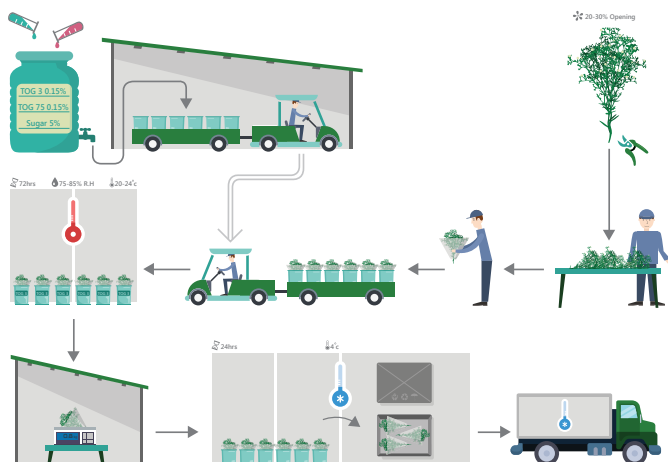
POST HARVEST TREATMENT FOR ALSTROMERIA

PRODUCT 1	A.I	PRODUCER	RATE/L
T.O.G L103	8-Hydroxyquinoline , Glycollic acid and Gibberellic acid	Gadot Israel	1-1.5ml
T.O.G 75	Stabilized Silver thiosulphate (8g/L Silver)	Gadot Israel	1-1.5ml

FAST OPENING (3-4 DAYS)

Fast opening (3-4 days)

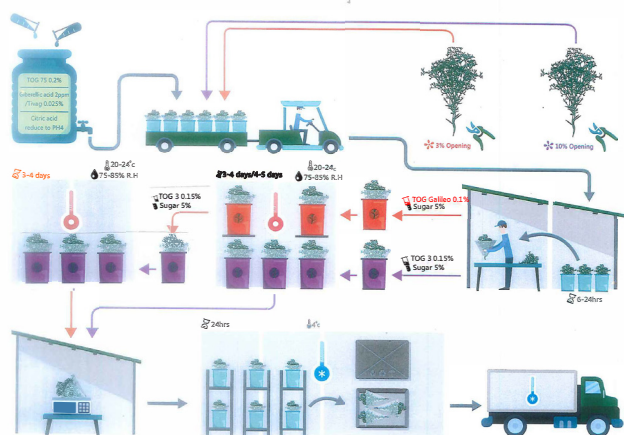
- Harvest flowers at 30% open
- Put in Sugar (50g/l) + TOG 3 + TOG 75
- Achieve 50-60% opening



SLOW OPENING (4-5 DAYS)

Slow opening (Premium market) - 4-5 days

- Harvest flowers at 10% open
- Put in GA3+ TOG 75+ Citric acid
- 6-24 hours opening room
- Grade and place in TOG 3+ sugar
- Achieve 60-70% opening





ETHYLENE SENSITIVE FLOWERS

- Carnations (*Diathus caryophyllus*),
- Gypsophila (*G. paniculata*)
- Alstroemerias and
- Delphinium

TOG 75 : CONDITIONER FOR ETHYLENE SENSITIVE FLOWERS

Soluble Concentrate

Content: 8 grams per liter of silver, dissolved and stabilized as silver thio-sulphate at a concentration of 75mM

Benefits

- Ethylene inhibitor (external and internal)
- Prevents premature wilting and yellowing
- Prevents premature senescence of flowers and foliage

Use instruction - Carnations

- Cut spray / standard carnations at the recommended phenological stage. After grading, cutting and packing put the cut carnations in a tank containing 5% sugar mixed with T.O.G-30 (0.035%) and T.O.G-75 (0.3%).
- Store flowers in an opening room, well-lighted (above 1000 lux) at 16°C-26°C with a relative humidity of 75%, for 12-72 hours.
- Carnations should be refrigerated for 12 hours before shipment.
- If storage is longer flowers should be retreated with T.O.G-6 or T.O.G-Galileo until shipment.

Use Instructions - Gypsophila

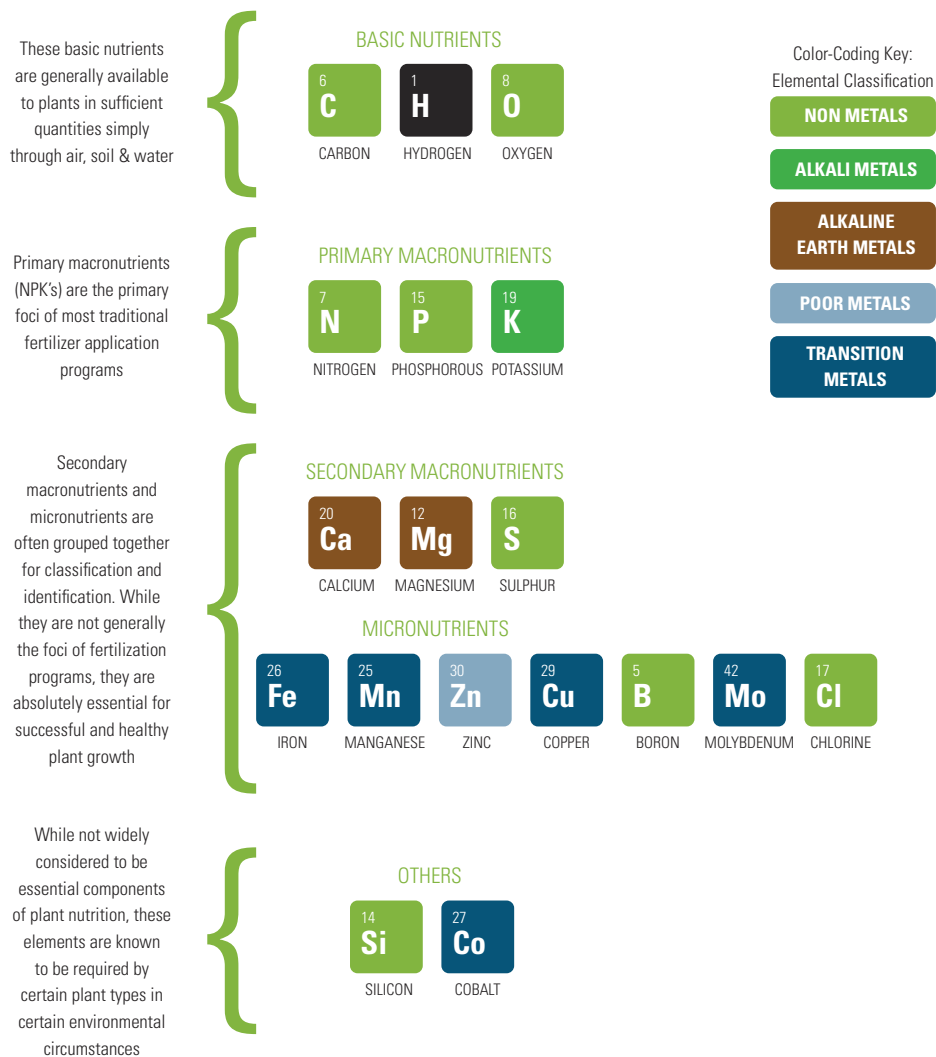
- Cut Gypsophila at the recommended phenological stage, and put immediately in Prepare a solution of 5% sugar + T.O.G-3 (0.15%) and T.O.G-75 (0.15%).
- Keep flowers in this solution for 24-72 hours, at 16°C-26°C with 75% humidity.
- Refrigerate Gypsophila for 24 hours before shipment.
- If storage is longer flowers should be re-treated with T.O.G-6 or T.O.G - Galileo until shipment.

PLANT NUTRITION

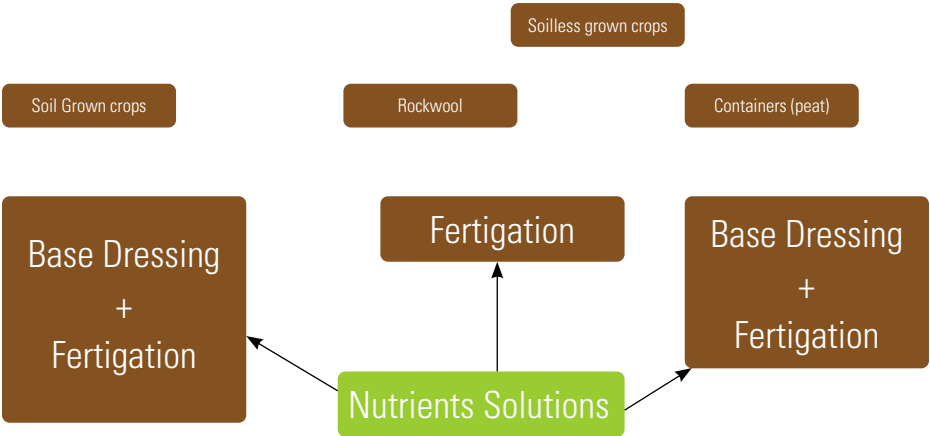
Over 50 different elements are present in plant tissues, only 16 are considered essential for all plants.

- **Macro-nutrients (9)** : H, C, O, N, K, Ca, Mg, P, S
(*> 0.2 % of plant dry weight*)
- **Micro-nutrients(7)** : B, Cl, Fe, Mn, Zn, Cu, Mo

Hierarchy of Elemental nutritional requirements for plant life

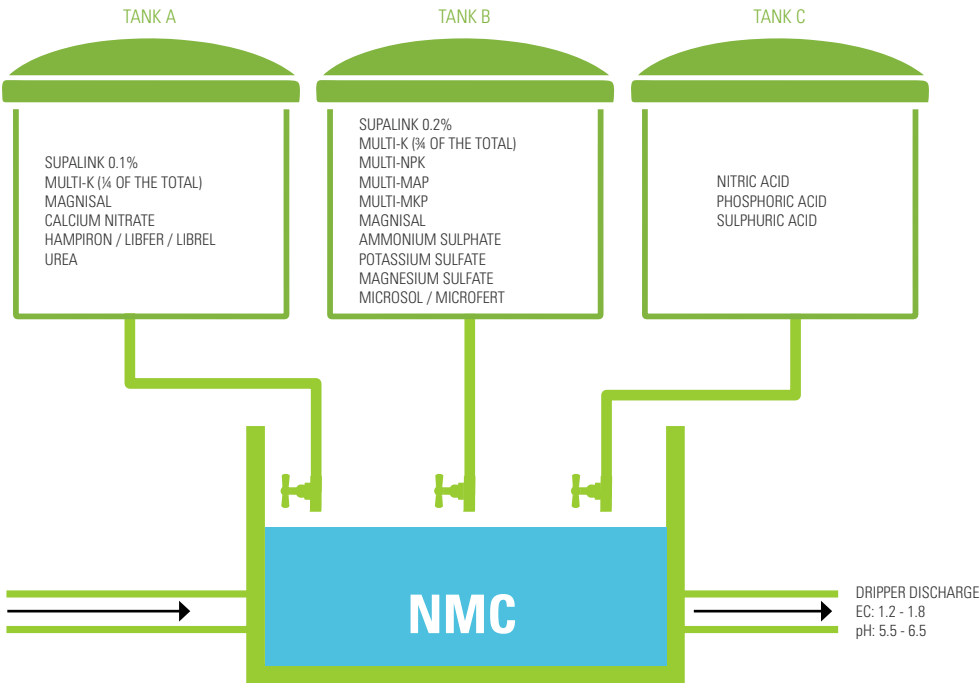


Fertilizer application in practice



Preparation of nutrient solutions

Fertilizer dosing systems A, B, and C



POST HARVEST PRODUCTS

PRODUCT	ACTIVE INGREDIENT	MODE / RATE OF USE	REMARKS
DIPNOY	Imidazole + Acrylic Co-polymer	5ml/ 1L of water	Post harvest dipping solution
PRENOY	Nutrients, Biocids + AI	2ml/1L of water	Post harvest hydration solution for short and long storage of roses
POLINOY	Modified atmospheric packaging bags	160 - 200 stems/bag	Special packaging bags for short and long storage of roses
T.O.G.-6	Stabilized Chlorine in Sodium Dichloro-iso-cyanurate 55%	1g in 11.4L of water (50ppm)	Post harvest solution and all purpose disinfectant/Sanitizer
T.O.G. - 3	TBZ, 8 Hydroxyquinoline, QAC	1.5ml/L	Gypsophilla opening solution (In combination with STS)
T.O.G. - 10	Aluminium sulphate, Quaternary amonium, Citric acid and surfactants	1ml in 1L of water	Post-harvest hydration solution for cut roses and hydrangea flowers
T.O.G.-30	8 Hydroxyquinoline, Acids and stabilizers	15-20ml/10L (0.15-0.20 %)	Post harvest pre treatment for roses and summers (In combination with STS)
T.O.G.-75	Stabilized Silver thiosulphate (8ppm Silver)	1.5ml/L	For use on ethylene sensitive flowers
T.O.G.-GALILEO	Bacterial growth inhibitor, Acids and surfactants	1ml/1L of water	Hydration solution for roses, gerbera and chrysanthemum
T.O.G.-L101	Benzyl Adenine, Ethoxylated Alcohol and Acidifier	5ml/1L of water	Treatment of Lepidium flowers by dipping
T.O.G L103	8-hydroxyquinoline, GA	1-1.5ml/L	Treatment of Alstromeria
LONG LIFE	Bacterial growth inhibitor, Acids and surfactants + sugar (dextrose)	5g sachet/0.5L vase soln.	End user product

PLANT PROPAGATION PRODUCTS

PRODUCT	ACTIVE INGREDIENT	REMARKS
HOMORIL - 3	IBA 0.4% powder	Root hormone for Semi-hard cuttings
HOMORIL- 6	IBA 0.6% powder	Root hormone for Semi-hard cuttings
HOMORIL- 8	IBA 0.8% powder	Root hormone for Hard cuttings



HORMORIL

- Propagates new plants from cuttings
- Faster rooting
- Prevents root rotting
- Enables faster water and nutrients uptake, resulting in more uniform, healthier plants.

BIOSTIMULANTS

PRODUCT	SPECIFICATIONS	RATE OF USE	REMARKS
ACRECIO	NPK + Pure L-(Trytopham+Methionine, Acrecioactive, Humic & Fulvic acid)	10L/Ha	Root Activator
BIOZYME	Natural plant extracts 78%Mg 0.1: S 0.4: Mn 0.1: Fe 0.4: Zn 0.3: Bo 0.3%	0.5L/Ha	Enhance fruiting
FOLTRON PLUS	N 5.6%, P ₂ O ₅ 19.5%, K ₂ O 5%, Fe, Zn, Mg, Mn, Bo, Cu, Mo, Folcisteine	2L/Ha	Vegetative development
MAXI BOOST/PROMINENT	Mg 10.2g/L, EDTA Fe 5.7g/L, EDTA Mn 2.8g/L, EDTA Zn 1.7g/L, EDTA Cu 2.9g/L, Mo 0.04g/L, S 13.8g/L, Auxins 8.8mg/L, Cytokinins 0.025mg/L	Drenching: 1.5- 2.0L/Ha/fortnight Field: 2.5L/Ha	Unique combination of 80% cytokinins and auxins and 20% chelated micro nutrients
PILATUS	Fluovic acid 3.0%, Total amino acids 2.0%, Inositol 0.4%, Zinc 4.9%, Total OM 30.0%	2ml/L	Root development
TIVAG	Gibberellic Acid 40g/L	1L/200L, 0.5-0.6L/Ha	Biostimulant
TRIAMIN CaB	Calcium cheletad Amino acids with Boron	Foliar: 3.0-4.0L/Ha	Biostimulant that promotes growth and ameliorates stress effects

SPECIAL NUTRITIONAL PRODUCTS

PRODUCT	SPECIFICATIONS	RATE OF USE	REMARKS
AMIRAN CALMAG	Ca + Mg + TE	Foliar: 2.0 - 4.0L/Ha	High Ca content for deficiency correction
AMIRAN FOLIAR	11:8:6 +0.2MgO + TE	Foliar: 2.0 - 4.0L/Ha	Balanced foliar fertilizer
ECOGAL	Copper Sulphate Pentahydrate + Acylic Copolymer + Natural ingredients	Foliar: 1L/Ha	Correct Cu - deficiency and structural plant defense mechanism
ECOKSIL	164g/Kg (K) + 127g/Kg (Si)	1-2L/Ha	It improves plant cell structure and strength
INTROGEL SET	N 14%, Ca 13%, K ₂ O 1.70%, Mg 2%, B 0.26%, Fe 0.076%, Cu 0.031%, Mn 0.031%, Zn 0.076%, Mo 0.008%, Protein hydrolysate 10%	1-2L/Ha	Foliar and drip Ca supplementary feeding
INTROGEL SHOOT	N 20%, P 7.86%, K 10%, B 0.011%, Fe 0.033%, Cu 0.011%, Mn 0.011%, Zn(EDTA) 0.011%	1-2L/Ha	Foliar and drip Npk + Microelements supplementary feeding
GROWCAL MGB	17.0% Ca, 10.0%N, 4.0%Mg, 0.2%B (Heavy suspension)	Foliar: 2.0L/Ha	Foliar and drip Ca supplementary feeding
SUPER NITRO HUMIX	42% Microcapsulated Liquid Nitrogen + 3% Humic Acid	Foliar: 5-10L/Ha Drenching: 10-20L/Ha	Corrects Nitrogen deficiency and aids in absorption of nutrients

MICRO ELEMENTS

PRODUCT	CHELATING AGENT	SPECIFICATIONS	REMARKS
FOLIAREL		21%B ₂ O ₅	Soluble Boron
HAMPIRON X55	HBED	6%Fe (5.5% ortho-ortho isomer)	Wide pH range (3.5-12)
LIBFER 6%Fe	EDDHA	6%Fe (4% ortho-ortho isomer)	Wide pH range (3-10)
AMIRAN Fe 7%	DTPA	7%Fe	Neutral soil pH
MICROFERT B	EDTA	5%Fe, 2.5%Mn, 1.0%Zn, 0.75%Cu, 2.5%B, 0.035%Mo	All trace elements
MICROFERT COMBI	EDTA	5.7%Fe, 2.8%Mn, 2.3%Zn, 1.0%Cu, 1.9%B, 0.5%Mo	For soil less culture
MICROFERT COMPLETE	EDTA	5.72%Fe, 2.82%Mn, 2.25%Zn, 0.98%Cu, 1.94%B, 0.49%Mo	For soil less culture
MICROFERT WITHOUT BORON	EDTA	7.18%Fe, 3.57%Mn, 1.77%Zn, 0.24%Cu, 0.18%Mo	All trace elements
MICROSOL B	EDTA	5%Fe, 2.5%Mn, 1.0%Zn, 0.75%Cu, 2.5%B, 0.035%Mo	All trace elements
MICROSOL IPJ	EDTA	5.7%Fe, 2.8%Mn, 2.3%Zn, 1.0%Cu, 1.9%B, 0.5%Mo	For soil less culture

GREEN HOUSE GRADE FERTILIZERS (FOR FERTIGATION AND FOLIAR SPRAY)

PRODUCT	PRODUCT SPECS
CALCIUM NITRATE	15.5%N + 19%Ca
MAGNESIUM NITRATE	11.0%N + 9.5%Mg
MAGNESIUM SULPHATE	10%MgO% + 13%S
MAP	12%N + 61%P ₂ O ₅
MKP	52%P ₂ O ₅ + 34.5%K ₂ O
MULTI K	13%N + 46%K ₂ O
MULTI npK	13%N + 2%P ₂ O ₅ + 44%K ₂ O
MULTI-K pHAST	13%N + 46%K ₂ O, Acidic KNO ₃
POLIFAST	20%P + 13%N, A starter fertilizer
POLYFEED (NPK -19:19:19 + 2MgO + TE)	19N%+19%P ₂ O ₅ % +19%K ₂ O + 1%MgO +TE; Standard, suitable for all stages
POTASSIUM SULPHATE	50% K ₂ O + 18%S
UREA PHOSPHATE	18%N, 44%P ₂ O ₅

DRIP CLEANERS

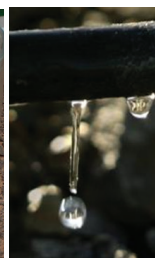
DESCRIPTION	ACTIVE INGREDIENT	SOURCE	USAGE SPECTRUM	USAGE INSTRUCTIONS
Supalink	Organic polyamines	SA - Sineria Netherlands	Unclogging and cleaning drip lines , water pumps, fertilizer Mixes	3-4L/Ha for unclogging driplines, 0.1 to 0.2 % solution in Fertilizer Tank A and/or B to prevent fertilizer reaction.
Intrahydropure	Silver chelated Hydrogen peroxide 55%	Intracare Netherlands	Unclogging and cleaning driplines	2-4 L/Ha for unclogging drip lines



MAP + CaNO₃



MAP + CaNO₃ + Supalink



FIELD GRADE FERTILIZERS

PRODUCT	PRODUCT SPECS
AGROMASTER	15-24-10+1.3MgO+10SO ₃ +3.CaO+0.2B+0.2Zn
	16-10-16+1.8MgO+14.2SO ₃ +5CaO+0.2B+ 0.2Zn
	24-6-12+1.4MgO+3.9CaO+11SO ₃ +0.2B+0.2Zn
	16-10-22+1MgO+8SO ₃ +2.8CaO+0.2B+0.2Zn
	25-5-10+1.7MgO+13.2SO ₃ +4.6CaO+0.2B+ 0.2Zn
AMMONIUM SULPHATE	21%N+24%S
MAP	11 %N + 52%P ₂ O ₅
MICROSTAR	12%N+43%P ₂ O ₅ +2%MgO+11%S+0.7%Zn
NPK-17:17:17	17%N+17%P ₂ O ₅ +17%K ₂ O
SSP	18%P ₂ O ₅ + 18%Ca + 12%S
TIGER TRACE	7.5g/kg Manganese (Mn)7.0 g/kg Copper (Cu)10.0g/kg Iron (Fe)90.0g/kg Zinc (Zn)650 g/kg Sulphur (S)
TSP	46%P ₂ O ₅ + 12%Ca+1%S
YARALIVA NITRABOR	15%N + 25.6 CaO + 0.3% B
YARAMILLER WINNER	15%N + 9% P ₂ O ₅ + 20% K ₂ O + 9.5%SO ₃ + 1.8%MgO + 0.015%B + 0.02%B + 0.02%Mn

SOIL AMMENDMENT MATERIALS

PRODUCT	SPECIFICATIONS	MODE / RATE OF USE	REMARKS
AGRICULTURAL GYPSUM	83%CaSO ₄ 2H ₂ O, 69.34%CaSO ₄ , 10.17%SiO ₂ , 40.63%SO ₃	0.5-1.5ton/Ha	To correct soil alkalinity by reducing the pH value of soil
AGRICULTURAL LIME	85%CaCO ₃ , 10%MgCO ₃	0.5-1.5ton/Ha	To correct soil acidity by increasing the pH value of soil
DISPERSAL	Nitrogen (N) as nitrate 10%, Calcium (Ca) as Calcium nitrate 12.6% + Fulvic Acids (1.1%)	30L/Ha, repeat 60L after 6 weeks, 40-60pm in fertigation	To open up compacted soils, sodicity, source of Calcium and improving soil CEC.
CALCIPOWER	90.3% CaCO ₃ (36% Ca)+ 3.3% MgCO ₃ (1% Mg)	175-200Kg/Ha	To correct soil acidity by increasing the soil pH, improving soil structure, sodicity and Calcium source.
CRIPTHUM	51% Humic Extracts (38% Humic Acid, 13% Fulvic Acid)	Drenching: 3-4L/Ha	Stimulates growth and soil structure
DOLMAX	Liquid organic fertilizer	0.5-1.5ton/Ha	Increase the pH value of soil
HUMIX SUPER	26% Humic Acid (as Potassium humate)	Drenching: 3-4L/Ha	Stimulates growth and soil structure

HORTICULTURAL DISINFECTANTS & CLEANING AGENTS

PRODUCT	ACTIVE INGREDIENT	MODE / RATE OF USE	REMARKS
HCLON	Sodium hypochloride	0.16ml/L	Fungi, bacteria, viruses
T.O.G - 6	Stabilized Chlorine in Sodium Dichloro-isocyanurate 55%	1g/L	All purpose disinfectant / Sanitizer
Intrahydropure	Silver chelated stabilized Hydrogen peroxide 55%	1-2ml/L	Multipurpose disinfectant /drip cleaning

HORTICULTURAL ACIDS

PRODUCT	COMPOSITION	RATE
NITRIC ACID	68%	50-100ppm
PHOSPHORIC ACID	85%	50-100ppm
SULPHURIC ACID	98%	50-100ppm

HAMPIRON X55

A speciality Micro Nutrient Fertilizer from AkzoNobel Netherlands to Cure and Prevent Iron Deficiency

Benefits







- Unique 6% Fe - HBED Chelate with an outstanding stability - for faster & long lasting correction of Iron Deficiency)
- Non dusting fully water soluble micro granules which guarantees safety to the users & zero blockages on the irrigation lines
- 100% chelation with 5.5% Ortho Ortho Isomers
- Stable in a wide range of PH and suitable for both soil and soilless culture
- It is the only Potassium based chelate free from sodium in the market
- Very cost effective





CROP PROTECTION PRODUCTS






 Indicates Bio-Solutions

	CHEMICAL	ACTIVE INGREDIENT	CHEMICAL GROUP	TARGET	RATE/HA	WHO CLASS	RE-ENTRY	WHO-SIGNAL
	ACTISOIL	<i>Azospirillum lipoferum</i> + <i>Bacillus magatarium</i> + <i>Bacillus pumilis</i>	Biofertilizer	Soil pupating insects, plant growth promoting bacteria	1.5-2Kg/Ha	U	U	U
	AGRIPHITE 600	<i>Dipotassium phosphite</i> 61%	Phosphonate	Downy mildew	3L	U	U	U
	AGRIXYL 407 SL	<i>Mono & dipotassium phosphite</i> 400g/L + <i>Metalaxyl</i> 70g/L	Phosphonate + Acylamine	Downy mildew	2.5L	II	12	HARMFUL
	AMIDIL 68 WG	<i>Metalaxyl-M</i> 40g/Kg + <i>Mancozeb</i> 640g/Kg	Acylamide + Dithiocarbamate	Downy mildew, Blights	2.5Kg	III	6	CAUTION
	AMIMAX 720 WP	<i>Mancozeb</i> 640g/kg + <i>Cymoxanil</i> 80g/kg	Dithiocarbamate + Acylamines	Downy mildew, Blights	2Kg	III	6	CAUTION
	AMISIL	<i>Polyether trisiloxane</i> 800g/L	Organosilicone	Mites	0.5L	III	U	U
	AMITIV 250 SC	<i>Azoxystrobin</i> 250g/L	Strobilurin	Downy mildew, Botrytis, Powdery mildew	0.5-0.75L	III	6	CAUTION
	APOLLO 50 SC	<i>Clofentazine</i> 500g/L	Tetrazine	Mites	0.7L	IV	4	CAUTION
	APRIL COMBI 38.3 EW	<i>Tebuconazole</i> 250g/L + <i>Spiroxamine</i> 133g/L	Triazoles + Amines	Powdery mildew, Leaf rust, Fusarium	0.4L	III	6	CAUTION
	ASTER EXTRIM 20 SL	<i>Acetamiprid</i> 150g/L + <i>Cypermethrin</i> 50g/L	Neonicotinoid & Pyrethroid	Aphids, Whiteflies, Thrips	0.25-0.3L	II	12	HARMFUL
	ATMOS 200SC	<i>Cyazofamid</i> 200g/L	Cyanoimidazole	Downey Mildew	0.5-0.75L	III	12	CAUTION
	AVID 1.8 EC	<i>Abamectin</i> 18g/L	Avermectin	Leafminers, Mites	0.5L	II	12	HARMFUL
	AVIRMEC 1.8 EC	<i>Abamectin</i> 18g/L	Avermectin	Leafminers, Mites	0.5L	II	12	HARMFUL
	BELT 480 SC	<i>Flubendiamide</i> 480g/L	Phthalic acid diamides	DBM, Caterpillars	0.075-0.1L	III	6	CAUTION
	BIO T PLUS	<i>B. Thuringesis</i> <i>Kurstaki</i> 36,000 IU	Biological insecticide	Caterpillars, Thrips, African bollworms	0.5Kg	IV	4	CAUTION
	BIGO 400 SC	<i>Fluazinam</i> 200g/L + <i>Dimethomorph</i> 200g/L	Diarylamine + Carboxylic acid amide	Downey Mildew	0.75-1L	III	6	CAUTION
	BIOFILM	<i>Glycols, glyco ethers, propnols</i> (976g/L)	Alkyl ethers	Sticker, wetter, adjuvant	5ml/20L	U	U	U
	BLADBUFF(BB5)	<i>Phosphoric acid</i> + <i>Anionic and non ionic wetting agents</i>	Non-ionic and anionic compounds	Multipurpose adjuvant	0.4-0.5 L	U	U	U
	BOTANIGARD ES	<i>Beauveria basiana</i> (GHA stain) 11.3% w/w	Entomopathogenic Fungus	Insects(Sucking)	1-3L	IV	4	CAUTION

ALPHABETICAL LIST - CHEMICALS


CHEMICAL	ACTIVE INGREDIENT	CHEMICAL GROUP	TARGET	RATE/HA	WHO CLASS	RE-ENTRY	WHO-SIGNAL
CALYPSO 480 SC	Thiacloprid 480g/L	Neonicotinoid	Aphids, Whiteflies, Thrips	0.2-0.4L	II	12	HARMFUL
CHESS 50 WG	Pymetrozine 500g/kg	Pymetrozine	Aphids, Whiteflies, Mealy bugs	0.4-0.6Kg	III	6	CAUTION
CLOSER 240 SC	Sulfoxaflor 240g/L	Sulfoximines	Aphids, Whiteflies, Mealy bugs	0.12L	IV	4	CAUTION
CROP GUARD	Furfural 800g/L	Aldehyde	Nematodes	15-20L	II	12	HARMFUL
CUTTER 112 EC	Acetamiprid 64g/L+ Emamectin Benzoate 48g/L	Neonicotinoid+Avermectin/ Milbectine	Caterpillars (FAW, Tuta, Bollworms), Thrips and Spidermites.	0.5L	II	12	HARMFUL
CYFLAMID 5 EW	Cyflufenamid 50g/L	Phenyl-acetamid	Powdery Mildew	0.5L	III	6	CAUTION
CYRUX 10 EC	Alpha Cypermethrin 100g/L	Pyrethroid	Aphids, Leafminers, Thrips, Whiteflies	0.25L	II	12	HARMFUL
DIFFERENCE 250 EC	Difenoconazole 250g/L	Triazole	Fungal-Several	0.5-0.75L	II	12	HARMFUL
DISARM 480 SC	Fluoxastrobin 480g/Kg	Dihydro-dioxazines	Powdery Mildew	0.3L	IV	4	CAUTION
DOMARK 40 EW	Tetraconazole 40g/L	Triazole	Powdery Mildew	0.75L	II	12	HARMFUL
EMTHANE M-45 WP	Mancozeb 800g/kg	Dithiocarbamate	Fungal-Several	2.5Kg	III	6	CAUTION
EPISODE 480 SC	Spinosad 480g/L	Spinosyns	Caterpillars, Thrips	0.2Kg	III	12	CAUTION
FOSTONIC 80 WP	Fosetyl Aluminium(Al) 833.3g/kg	Organophosphorous	Downy mildew	1.5-3.0Kg	III	6	CAUTION
FUNGURAN - OH 50 WP	Copper hydroxide 50%	Inorganics	Fungal-Several	2.5Kg	II	12	HARMFUL
GLADIUS	Flometoquin 100g/L	Flometoquin	Thrips, Aphids, Whiteflies	0.75L	II	12	HARMFUL
GOLDAZIM 500 SC	Carbendazim 500g/L	Benzimidazole	Fungal-Several	1-1.5L	III	6	CAUTION
IMPULSE 500 EC	Spiroxamine 500g/L	Spiroketalamine	Powdery Mildew,Rust	0.75-1L	II	12	HARMFUL
INDOX	Indoxacarb 150g/L	Indoxacarb	Fall Army Worms, Caterpillar	0.25L	II	12	HARMFUL
INFINITO 687.5 SC	Fluopicolide 65.2g/L + Propamocarb hydrochloride 625g/L	Acylpicolides	Downy Mildew/Late blight	1.2-1.5L	III	6	CAUTION
IPPON 500 SC	Iprodione 500g/L	Dicarboxamide	Botrytis	1-1.5L	III	6	CAUTION
KANEMITE 15 SC	Acequinocyl 150g/L	Napthoquinone	Mites	0.4L	II	12	HARMFUL
KOBE 1.2 SL	Chrysophanol parietien 1.2%	Bio Fungicide	Fungal-Several	1-1.5L	IV	4	CAUTION
KOHINOR 200 SL	Imidacloprid 200g/L	Neonicotinoid	Insects	0.5L	III	6	WARNING
KONZANO 50 OD	Abamectin 50g/L	Avermectin	Nematodes	4L	II	12	HARMFUL
LEVO 2.4 SL	Prosuler Oxyimarine 2.5%	Biological Insecticide	Thrips, Mites, Caterpillars,Insects	0.8-1.2L	U	4	CAUTION
MELODY DUO 69WG	Propineb 600g/kg + Iprovalicarb 90g/kg	Valinamide carbamates	Blight, Downy Mildew	2.0-2.5Kg	III	6	CAUTION
MERCUR 500 SC	Diafenthiuron 500g/L	Sulfooarbaide	Mites/insects	0.6-0.8L	III	6	CAUTION
MERPAN 83 WP	Captan 83%	Phthalimides	Fungal-Several	1.5Kg	IV	4	CAUTION
METAPROP	Mefenoxam 15% + Propamocarb hydrochloride 625g/L	Acylamine + Carbamate	Downy Mildew, Phytophthora	1.5-2L	III	12	HARMFUL
MILSTOP	Potassium Carbonate 850g/Kg	Inorganic Biofungicide	Broad Spectrum Fungicide	1.5-2Kg	IV	4	CAUTION
NEEMRAJ SUPER 3000	Azadiractin 0.3%	Azadiractin	Insects, Nematodes	0.75L	IV	4	CAUTION

ALPHABETICAL LIST - CHEMICALS

CHEMICAL	ACTIVE INGREDIENT	CHEMICAL GROUP	TARGET	RATE/HA	WHO CLASS	RE-ENTRY	WHO-SIGNAL
 NEEMRAJ 300	Azadiractin 0.03%	Azadiractin	Insects	1L	IV	4	CAUTION
NIMROD 25 EC	Bupirimate 250g/L	Pyrimidine	Powdery Mildew	2.5L	III	6	CAUTION
NISSORUN 10 EC	Hexythiazox 100g/L	Thiazolidines	Mites	0.5L	III	6	CAUTION
NORDOX SUPER 75 WP	Cuprous oxide (equivalent to 75% metallic copper)	Inorganics	CBD Leaf Rust	3.8kg 2.4kg	III	6	CAUTION
ODEON 82.5 WDG	Chlorothalonil 825g/Kg	Chloronitriles-Phalonitriles	Fungal-Several	0.12-0.15Kg	III	6	CAUTION
ORIUS 25 EW	Tebuconazole 250g/L	Triazole	Rust	0.5-0.75L	II	12	HARMFUL
OTHELLO 25 WDG	Azoxystrobin 250g/Kg	Strobilurins	Rust, Botrytis, Powdery Mildew	0.5Kg	III	6	CAUTION
OTHELLO TOP 32.5 SC	Azoxystrobin 200g/L + Difenoconazole 125g/L	Strobilurins + Triazole	Rust, Botrytis, Powdery Mildew	0.5Kg	III	12	CAUTION
POLAR 50 WG	Polyoxin Al (complex 50%)	Peptidyl pyrimidine nucleoside	Powdery Mildew, Botrytis	0.25Kg 0.5Kg	IV	4	CAUTION
PROPLANT 722 SL	Propamocarb hydrochloride 722g/L	Carbamate	Downy Mildew	0.15-0.3L	IV	4	CAUTION
PROVE 1.92 EC	Emamectin Benzoate 19.2g/L	Avermectin/Milbectine	Caterpillars, Thrips	0.6L	II	12	HARMFUL
PYRINEX 48 EC	Chlorpyrifos 480g/L	Organophosphate	Insects	0.15L	II	12	HARMFUL
PYRINEX QUICK 256 ZC	Chlorpyrifos 250g/L + Deltamethrin 6g/L	Organophosphate + Pyrethroid	Insects	1.25L	II	12	HARMFUL
PYRUS 400 SC	Pyrimethanil 404g/L	Pyrimidines	Botrytis	0.1-0.12L	IV	4	CAUTION
RADIANT 120 SC	Spinetoram 120g/L	Spinosyns	Caterpillars, Thrips	0.25L	IV	4	CAUTION
RAPID 120 SC	Acetamiprid 100 gr/lit + Emamectin-benzoate 20 gr/lit	Neonicotinoid+Avermectin /Milbectine	Caterpillars (FAW, Tuta, Bollworms),	0.25 – 0.4 L	III		CAUTION
RAVENNA	Thiocydiam Hydrogen Oxalate 500g/kg	Nereistoxin analogues	Thrips, Whiteflies, Mealybugs	0.5-0.75kg	III	6	CAUTION
RIMON SUPRA 10 SC	Novaluron 100g/L	IGR	Caterpillars	0.5L	III	6	CAUTION
RIZOLEX 50WP	Tolclofos Methyl 50g/kg	Aromatic hydrocarbons	Rhizoctonia	5 - 10Kg	III	6	CAUTION
SAF-T-SIDE 800 EC	Paraffinic oil 80%	Oil	Spider mites, Thrips Whiteflies, Mealy bugs	4L	IV	4	CAUTION
 SERENADE ASO SC	Bacillus amyloliquefaciens 13.96g/L	Biofungicide	Powdery mildew	5L	U	2	CAUTION
SOLVIT	Fenpropidin 125g/L + Penconazole 50g/L	Piperidones	Powdery mildew	0.75-1L	II	12	HARMFUL
SPHINX EXTRA 713 WDG	Folpet 600g/kg + Dimethomorph 113g/kg	Carboxylic acid amide + Phthalimides	Downey Mildew, Blight	2.0-2.5Kg	III	6	CAUTION
SULFOLAC 80 WG	Sulphur 800g/Kg	Inorganics	Powdery Mildew	2.5Kg	III	6	CAUTION
 TARSSUS	Vegetal Extracts 50%	Bioinsecticide	White flies, Aphids, Mealy bugs, Thrips	2.5Kg	III	6	CAUTION
TEPEKI 50 WG	Flonicamid 500g/kg	Pyridinecarboxamide	Thrips, Aphids, Mealy bugs, White flies	0.14Kg	III	6	CAUTION
 TRIANUM	Trichoderma harzianum strain T22	Biological	Soil borne pathogens	2.5Kg	IV	U	U
 TRIGER	Lamba-cyhalothrin 5%	Pyrethroids	Insects	0.35L	II	12	HARMFUL
VACCIPLANT	Laminatin 42.4g/L	Plant Elicitor	Powdery mildew	2L	IV	2	CAUTION
VELUM PRIME 400 SC	Fluopyram 400g/L	Carboxamide	Nematodes	1L	II	12	HARMFUL
VICTORY 72 WP	Metalaxyl 80g/Kg + Mancozeb 640g/Kg	Acylamide + Dithiocarbamate	Fungal-several	2.5Kg	III	6	CAUTION
VALBON 73 WDG	Benthiavalcab 17.5g/kg + Mancozeb 700g/kg	Valinamide + dithiocarbamate	Downey Mildew	2.5Kg	III	6	CAUTION

ADJUVANTS AND ATTRACTANTS

PRODUCT	ACTIVE INGREDIENT	RATE OF USE/1000L	REMARKS
AGRAL 90	<i>Syneronic NP8 900g/L</i>	0.25L	Non-ionic wetter/spreader for with fungicides, herbicides to increase their efficiency
AMISIL	<i>Polyalkyleneoxide modified Heptamethyl trisilixane 80%</i>	0.2L	Spreader / Sticker for use on outdoor / Indoor crops
BLADBUFF (BB5)	<i>Acidifier, pH indicator, penetrating, spreading and wetting agents</i>	0.25-0.4L	Multipurpose adjuvant
BIOFILM	<i>Glycolethers, fatty acids, spreading and wetting agents</i>	0.15L	Spreader / Sticker
ATTRACKER	<i>Sugars (Fructose, Glucose & Saccharose)</i>	1L	Lures and excites thrips.



BLADBUFF

The multipurpose adjuvant with a built-in computer.

A water quality improving agent containing wetting and spreading agents, humectant, salt complexing agents and acidifiers with a built-in pH indicator for use with contact and systemic pesticides, fungicides, herbicides and foliar feeds.

BENEFITS

- Reduces the pH of the spray solution.
- Neutralises harmful salts found in hard spray waters.
- Contains a unique pH indicator which changes the colour of the spray water when reaching the optimum pH range
- Has excellent wetting and spreading properties which improve pesticidal performance (especially herbicides) and reduces the possibility of phytotoxicity.
- Improves cuticular penetration and uptake of systemic pesticides and foliar nutrient sprays.
- Prevents rapid hydrolysis (degradation) of alkaline sensitive pesticides such as organophosphates, carbamates, synthetic pyrethroids and chlorinated hydrocarbons.
- Improves the compatibility of emulsifiable concentrates with foliar nutrient products.
- It is the safest flocculant for pesticide solutions.



PLANT NUTRITION PRODUCTS

PRODUCT	SPECIFICATIONS	TARGET	RATE/HA
ACRECIO	NPK + Pure L-(Tryptopham+Methionine, Acrecioactive, Humic & Fulvic acid)	Root Activator	10L - Drenching
AGRIPHITE	Di-potassium phosphite 61%	Establishment of natural defence system by the plant (priming)	Foliar application 1.5-2L Soil application: 3 - 4L
AGROMASTER	15-24-10+1.3MgO+10SO ₃ + 3.CaO+0.2B+0.2Zn	Controlled Release Fertilizer (High P)	400 - 600 Kg
	16-10-16+1.8MgO+14.2SO ₃ + 5CaO+0.2B+ 0.2Zn	Controlled Release Fertilizer (Balanced)	400 - 600 Kg
	24-6-12+1.4MgO+3.9CaO+ 11SO ₃ +0.2B+0.2Zn	Controlled Release Fertilizer (High N)	400 - 600 Kg
	16-10-22+1MgO+8SO ₃ + 2.8CaO+0.2B+0.2Zn	Controlled Release Fertilizer (High K)	400 - 600 Kg
	25-5-10+1.7MgO+13.2SO ₃ + 4.6CaO+0.2B+ 0.2Zn	Controlled Release Fertilizer (High N)	400 - 600 Kg
AGRICULTURAL GYPSUM	89% soluble, 83% CaSO ₄ ·2H ₂ O, 30.12%CaO, 10.17%SiO ₂ , 40.63%SO ₃	To correct soil alkalinity by reducing the pH	0.5-1.5 Ton
AGRICULTURAL LIME	85%CaCO ₃ , 10%MgCO ₃	To correct soil acidity by increasing the pH value of soil	0.5-1.5 Ton
AMIRAN CALMAG	Ca + Mg+TE	For calcium deficiency correction	5-8 L
AMMONIUM SULPHATE	21%N+24%S	Field grade fertilizer	0.2 Kg
BIOZYME	Natural plant extracts 78%, 0.1%Mg, 0.4%S, 0.1%Mn, 0.4%Fe, 0.3%Zn, 0.3%Bo	Biostimulant	0.5 L
CALCIPOWER	90.3% CaCO ₃ (36% Ca)+ 3.3% MgCO ₃ (1 % Mg)	To correct soil acidity by increasing the pH	125 Kg
CALCIUM NITRATE	15.5%N + 21%Ca	Soluble fertilizer	150-200 Kg
CAN	26%N + 21%Ca	Field grade fertilizer	150-200 Kg
CRIPTHUM	51% Humic Extracts (38% Humic Acid, 13% Fulvic Acid)	Stimulates growth and soil structure	Drenching: 3-4L/Ha
DISPERSAL	CaO-17.5%, Polyhydroxycarboxylic acids + Carbohydrates	Sodium saline soil and water corrector	Fertigation: 40-60 ppm + drenching 5L/Ha every 10-15 days, 30L/Ha repeat 10L after 6 weeks
DEKOMPAKT	Nitrogen (N) as Nitrate 10%, Calcium (Ca) as Calcium Nitrate 12.6% + Fulvic Acids (1.1%)	To open up compacted soil	30L/Ha 10L/Ha after 6 weeks
GRANFOL - K	Potassium phosphonate 760g/L	Establishment of natural defence system by the plant (priming)	Foliar application 1.5-2L Soil application: 3 - 4L
GROWCAL MGB	17.0% Ca,10.0%N,4.0%Mg,0.2%B (Heavy suspension)	Readily available Ca for foliar spray for deficiency correction	Foliar: 2L



ALPHABETICAL LIST - FERTILIZERS

PRODUCT	SPECIFICATIONS	TARGET	RATE/HA
HAMPIRON X55	HBED 6% Iron 6% chelated Sodium free Potassium K ₂ O 24% Ortho Ortho 5.5%	Wide pH range (3.5-12)	Fertigation: 10-15 ppm
HUMIX SUPER	26% Humic Acid (as potassium humate)	Stimulates growth & soil structure	3-4L
INTROGEL SET	N 14%, Ca 13%, K ₂ O 1.70%, Mg 2%, B 0.26%, Fe 0.076%, Cu 0.031%, Mn 0.031%, Zn 0.076%, Mo 0.008%, Protein hydrolysate 10%	Highly analysis of nutrients in a gel / Ca	1 – 2L
INTROGEL SHOOT	N 20%, P 7.86%, K 10%, B 0.011%, Fe 0.033%, Cu 0.011%, Mn 0.011%, Zn(EDTA) 0.011%	Highly analysis of nutrients in a gel / NPK	1-2L
LIBFER 6%Fe	EDDHA 6%Fe(4% ortho-ortho isomer)	High pH (3-10)	Fertigation: 15-20ppm
LIBREL 13% Fe	EDTA 13% Fe	Low pH <6	Fertigation: 15-20ppm
AMIRAN 7% Fe DTPA	DTPA 7%Fe	Neutral pH	Fertigation: 15-20ppm
MAGNESIUM NITRATE	11.0%N + 9.5%Mg	Soluble fertilizer	Fertigation
MAGNESIUM SULPHATE	10%MgO% + 13%S	Soluble fertilizer	Fertigation
MAP	12%N +61%P ₂ O ₅	Soluble fertilizer	Fertigation
MAXIBOOST/PROMINENT	Mg 10.2g/L, EDTA Fe 5.7g/L, EDTA Mn 2.8g/L, EDTA Zn 1.7g/L, EDTA Cu 2.9g/L, Mo 0.04g/L, S 13.8g/L, Auxins 8.8mg/L, Cytokinins 0.025mg/L	Unique combination of 80% cytokinins and auxins and 20% chelated micro nutrients	2-4L
MICROSOL B	EDTA 5%Fe,2.5%Mn, 1.0%Zn, 0.75%Cu, 2.5%B, 0.035%Mo	Chelated trace elements with High Boron	Fertigation: 6-12ppm
MICROSOL IPJ	EDTA 5.7%Fe, 2.8%Mn, 2.3%Zn, 1.0%Cu, 1.9%B, 0.5%Mo	Chelated trace elements (Balanced)	Fertigation: 6-12ppm
MICROFERT B	EDTA 5%Fe, 2.5%B, 0.75%Cu, 2.5%Mn, 0.035%Mo 1%Zn	Chelated trace elements	Fertigation: 6-12ppm
MICROFERT WITHOUT BORON	EDTA 7.18%Fe, 3.57%Mn, 1.77%Zn, 0.24%Cu, 0.18%Mo	Chelated trace elements	Fertigation: 6-12ppm
MICROFERT COMPLETE	EDTA 5.72%Fe, 1.94%B, 0.98%Cu, 2.82%Mn 0.49%Mo, 2.25%Zn	Chelated trace elements	Fertigation: 6-12ppm
MKP	52%P ₂ O ₅ + 34.5%K ₂ O	Soluble fertilizer	
MULTICOTE 15:7:25 + TE	15-7-25+TE 15%N +7%P ₂ O ₅ +25%K ₂ O	Controlled release fertiliser	60-80g/M ² or 10-15g/plant
MULTI-K-PHAST	13%N +46%K ₂ O	Acidic Potassium Nitrate	5Kg
MULTI npK	13%N + 2%P ₂ O ₅ + 44%K ₂ O	Soluble potassium nitrate enriched with phosphorous	Fertigation
PILATUS	Fluic acid 3.0%, Total amino acids 2.0% Inositol 0.4%, Zinc 4.9%, Total OM 30.0%	Root development	2L
POLYFEED(19:19:19)	19N%+19%P ₂ O ₅ +19%K ₂ O + 1%MgO +TE;	Balanced for use at all stage	4Kg
POTASSIUM SULPHATE	50%K ₂ O+18%S	Soluble fertilizer	Fertigation
SSP	18%P ₂ O ₅ +18%Ca+12%S	Field Grade Fertilizer	200Kg

EXPORT VEGETABLE PRODUCTS

PRODUCT	AI	REGISTERED CROPS	TARGET PEST	USAGE RATE /HA	PHI(DAYS)
AGIL	Propaquizafop 100g/l	<i>Snow peas and Broccoli</i>	Post emergence graminicide	1 L	30
AGRIPHITE	Di-potassium phosphate 61%	<i>Nutritional</i>	Plant elicitor for blights	2-3 L	0
AMICOP	Copper Oxychloride 50% Metallic Copper	<i>French beans</i>	Rust, Leaf blight, Anthracnose	1.6Kg	3
AMIDIL	Metalaxyl-M-40g/kg+640g/kg Mancozeb	<i>Tomatoes, Potatoes, Cabbages, Kales, Cucumbers, Hops, onions, Lettuce</i>	Fungal leaf pot, DM, Dumping off	2.5Kg	Tomatoes, French beans-3day, Onions,kales- 7days.
AMIMAX	Mancozeb 640g/kg + Cymoxanil 80g/kg	<i>Tomatoes, and Potatoes</i>	Early blight & Late blight	2Kg	14
AMITIV	Azoxystrobin 250g/l	<i>Peas and French beans</i>	Rust, PM, Ringspot, Botrytis	0.5L	3
APOLLO	Clofentazine 500g/l	<i>French beans</i>	Egg and motile stages of mites	0.7L	3
ASTER EXTRIM	Acetamiprid 150g/l + Cypermethrin 50g/l	<i>French beans</i>	Aphids, Thrips, Whiteflies	0.3L	6
AVIRMEC	Abamectin 18g/l	<i>French beand and Tomatoes</i>	Spidermites and Leafminer	0.5 L	7
BELT	Flubendiamine 480g/l	<i>Cabbages and Tomatoes</i>	"Cabbages-Diamondback Moth (<i>Plutella xylostella</i>) Tomatoes-Tuta Absoluta"	0.075 to 0.01 L	3
BIGO	Fluazinam 200g/l + Dimethomorph 200g/l	<i>Potatoes and Tomatoes</i>	Late Blight	0.75 L	7
BIO-T-PLUS	Bacillus thuringiensis Kurstaki 32,000IU	<i>French beans</i>	Thrips, Catterpillars, Bollworms	0.5Kg	0
BOTANIGARD	Beauveria bassiana strain GHA 11.3% w/w	<i>French beans and Snow peas</i>	Aphids, Whiteflies, Thrips.	2L	0
CHESS	Pymetrozine 500g/l	<i>Cabbage, Kales and French beans</i>	Aphids, Thrips, Whiteflies	0.4Kg	7 days kales, 14 days French-beans
CLOSER	Sulfoxaflor 240g/l	<i>Tomatoes, French beans and Cabbage</i>	Whiteflies, Aphids & Scales	0.1 L	Frenchbeans & Cabbages -14 Tomatoes-3
CYRUX	Alphacypermethrin 100g/l	<i>French beans</i>	Aphids, Thrips, Whiteflies, Leafminer	0.25 L	7
DEBAR	Glyphosate acid 450g/l	<i>Baby corn</i>	Broad leaved weed& perennial grasses	1.5 to 2 L	60
DUSS	Pyriproxyfen 100g/L	<i>Tomatoes</i>	Thrips/Whiteflies	0.5 L	3
FUNGURAN	Copper hydroxide 50%	<i>Tomatoes and French beans</i>	late and early blights, halo blights, rust	2.5Kg	3
GALIGAN	Oxyfluorfen 240g/L	<i>Cabbage, Tomatoes and Onions</i>	"Broad leaved weeds & grasses except cyperussp, Setaria spp, dactyloctenium sp"	1L	30

GOLAN	Acetamiprid 200g/l	French beans	Aphids, Thrips and whiteflies	0.2 Kg	14
INFINITO	Fluopicolide 62.5g/l + Propamocarb HCL 10%	Tomatoes, broccoli, Potatoes and Onions	Downy mildew, Early & late blight	1.2 L	7
KOBE	Chrysophanol parietin 12g/L	Tomatoes	Bacterial wilt	1.5L	0
KONZANO	Abamectin 50g/L	Tomatoes	nematodes, spidermites, leafminer	0.15 For spray and 4L drench	3
LAMBDEX	Lambda-cyhalothrin 50g/l	Snow peas and French beans	Aphids, whiteflies, caterpillars.	0.35 L	3
LEVO	Oxymatrine 2.4%	Tomatoes and French beans	Aphids, spidermites, whiteflies	0.5 to 0.8 L	1
LINAGAN	Linuron 500g/Kg	Maize, Beans, Carrots and Potatoes	pre-emergence herbicide	2Kg	30
METACOP	Metalaxyl-M 50g/L + Copper Oxychloride 400g/L	Tomatoes, Garlic, onions, peppers, potatoes	DM, rust, Fusarium, purple blotch	2.5Kg	3
MIDAS	Mancozeb 80%	Potatoes and Tomatoes	Late blight	1.5-2.kg	3
MILSTOP	Potassium bicarbonate 850g/kg	Snow peas	Powdery mildew	2.5Kg	0
NEEMRAJ SUPER 3000	Azadiractin 0.3%	French beans, Snow peas, Cabbage, Kale and Peas	Thrips, Aphids, Whiteflies, DBM, Nematodes	0.75L- Foliar spray, 3L drench	1
NEEMRAJ SUPER 300	Azadiractin 0.03%	Chives	Thrips, Aphids, Whiteflies, DBM, Nematodes	1L- Foliar spray, 4L-drench	1
NEUDOSAN	Potassium salts of fatty acids	French beans	Thrips, Aphids, Whiteflies,	3 to 4 L	0
NIMROD	Bupirimate 250g/l	Tomatoes, Snow peas and Pepper	Powdery mildew	2.5L	3
NISSORUN	Hexythiazox 100g/l	Tomatoes	Spidermites	0.5 L	7
ODEON	Chlorothalonil 825g/Kg	Tomatoes	Early blight	1.5Kg	3
ORIUS	Tebuconazole 250g/l	Cabbage and French beans	Leafspot and Leaf rust	0.5L	14
OTHELLO	Azoxystrobin 250g/l	French beans	Rust, Botrytis	0.5 L	3
PANGA	Glyphosate acid 360g/L	Fullow land	Broad leaved weed, perennial grasses	3L	30
PROPLANT	Propamocarb hydrochloride 722g/l	Pepper	Damping off	0.8L - spray, 3L drench	3
PROVE	Emamectin Benzoate 19.2g/l	French beans	Caterpillars, Thrips, fall army worm	0.6 L	3
PYRUS	Pyrimethanil 404g/l	French beans, Tomatoes and Cabbage	Grey mould, Leaf scab	1.2 L	7
RIMON 100EC	Novaluron 100g/l	Cabbage	Caterpillars	0.5 L	7
RADIANT	Spinetoram 120g/l	French beans and Tomatoes	Caterpillars, Thrips, helioverpe amigera	0.15 to 0.2 L	3
SERANADE	Bacillus amyloliquefaciens 1X109CFU/g	Cabbage	Black rot and leaf spot	5L	0
SAFT SIDE	Paraffinic oil 80%	Tomatoes and French beans	Spidermites and aphids	3-4L	1
SPHINX EXTRA	Folpet 600g/kg + Dimethomorph 113g/kg	Tomatoes	Late blight	2 Kg	7
TEPPEKI	Fonicamid 5000g/Kg	Cucumber, Snowpeas and french beans	Aphids, Thrips and whiteflies	0.12 to 0.14	7
TIVAG	Gibberelic Acid 40 g/L	Tomatoes	Breaking shoot dormancy and enhancing shoot growth, increasing plant growth vigour	0.5 L	
TRIANUM	Tricoderma harzianum strain T22	French beans	Soil-borne fungal diseases caused by Pythium spp., Rhizoctonia spp. and Fusarium spp.	1kg	0
VACCIPLANT	Laminarin	Snowpeas	Powdery mildew	2 L	0
VELUM PRIME	Fluopyram 500g/l	French beans, Tomatoes and Potatoes	Nematodes	1 L	7
VICTORY	Metalaxyl 80g/kg + 640g/kg Mancozeb	Tomatoes and Potatoes	Late blight and DM	2.5kg	Potatoes-14 Tomatoes-3



The global market demand for Bio pesticides is posed to grow to 15% by 2025 according to Biological Products Industry Alliance (BPIA).

The increased global demand for low residue products is attributed to the increased interest in green agricultural practices and the loss of many conventional products that have long lasting and profound effects on the environment and human beings.

Bio pesticides are economically viable, eco-friendly and easy to use, the present and future alternative for restricted synthetic crop protection products.

Biopesticides:

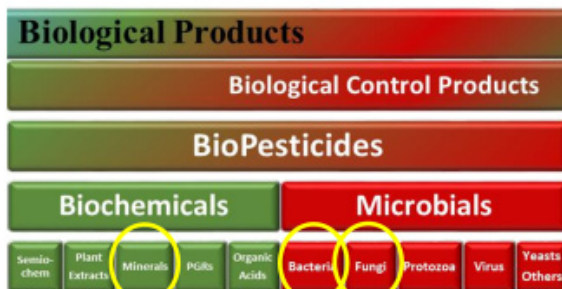
Pesticides derived from natural materials.

Biochemicals

Includes K bicarbonate, plant extracts, botanical oils, pheromones.

Microbial

Microorganisms that act as biocontrol agents, have direct or indirect activity.



KEY AMIRAN BIO FUNGICIDES

BRAND	ACTIVE INGREDIENT	SOURCE	CATEGORY	TARGET	RATE /HA	REMARKS
AGRIPHITE	Di-potassium phosphate 61%	Sineria, Netherlands	Biochemical	Downy mildew ; Soil-borne pathogens (Pythium and Phytophthora)	Foliar spray: 1.5L/Ha Drench: 3L/Ha	Plant elicitors
GRANFOL K	Potassium phosphate 760g/l	Arvensis, Spain	Bio fertilizer	Correction of Ca, K and B deficiencies	Drench: 3-4L	Plant elicitors
KOBE	Chrysophanol parientis 12g/l	Sineria, Netherlands	Plant extract	Powdery mildew & Agro bacteria	1.5L/Ha	Plant Elicitors
MILSTOP	Potassium Bicarbonate 850g/Kg	Bio works, USA	Biochemical	Powdery mildew/Rust	1.5-2Kg/Ha	Preventive & Curative
NOPATH	Food grade essential oil (Thymus Vulgaris)	Koppert, Netherlands	Botanical oils	Botrytis and Downy Mildew	Drenching :2.5 L/Ha every 3 weeks for Downy mildew. Spray :2L/Ha	Plant Elicitors
TRIANUM	Trichoderma harzianum strain T22	Koppert, Netherlands	Microbial (Fungus)	Soil borne pathogens(Pythium spp., Rhizoctonia spp., Fusarium spp. and Sclerotinia)	Drench: 1Kg/Ha Monthly	Anti-soil borne fungal & Plant growth promoting fungus
SERANADE	Bacillis amyloliquificiens	Bayer Crop Science, USA	Microbial (Bacteria)	Powdery mildew & Botrytis	5L/Ha	Broad spectrum bacterial strain against fungal infection
VACCIPLANT	Laminarin 42.4g/l	Arysta,France	Plant extract	Powdery mildew	2L/Ha	Plant elicitors

KEY AMIRAN BIO INSECTICIDES

BRAND	ACTIVE INGREDIENT	SOURCE	CATEGORY	TARGET	RATE /HA	REMARKS
ACTISOIL	Azospirillum lipoferum+Bacillus magatarium+Bacillus pumilis	Russel IPM UK	Biofertilizer	Soil pupating insects, Plant growth promoting bacteria	Drench: 1.5-2Kg/Ha	Beneficial Bacteria
BIOT PLUS	Bacillus thuringiensis Kurstaki 36,000IU	Sineria, Netherlands	Insecticide	Caterpillars/FCM	0.5Kg/Ha	Contact
BOTANI-GUARD	Beauveria bassiana strain GHA 11.3% w/w	Laverlam Cooperation, USA	Insecticide	Thrips, Mealy bugs	1-3L/Ha	Contact, stable mycoinsecticide of high spore count
NEEMRAJ SUPER	Azadiractin 0.3%	Neem,India	Insecticide	Thrips,Aphids,Whiteflies & Nematodes	0.75L/Ha	Repellant, Anti-feedant, Anti-moulting
NEEMRAJ 300 PPM	Azadiractin 0.03%	Neem,India	Insecticide	Thrips,Aphids,Whiteflies	3-5L/Ha	Repellant, Anti-feedant, Anti-moulting
NEUDOSAN	Potassium salts of natural fatty acids,510g/L	W.Neudorff GMBH, Germany	Insecticide	Mites, Thrips, Whiteflies, aphids	3-4L/Ha	Contact
SAFT SIDE	Paraffinic oil 80%	Brandt, USA	Insecticide & Fungicide	Thrips, Aphids, Whiteflies, Mealybugs	3-4L/Ha	Contact, Suffocation



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