

CROPBIO LIFE[®]

READ THE ATTACHED PACKAGED LEAFLET BEFORE USE • KEEP OUT OF REACH OF CHILDREN AND ANIMALS

ACT / WET 36/1947 REG. No ZAR M245
NAM NF0918
FERTILIZER GROUP III



ACTIVE INGREDIENTS

Carbon content	350 g/kg
Ethyl Lactate	40 g/ℓ
Acetic Acid	40 g/ℓ
Octanoic Acid	500 g/ℓ

NOT CLASSIFIABLE ACCORDING TO GHS

REGISTRATION HOLDER:

The Bio Consulting (Pty) Ltd.

REG. No 2013/149402/07

POST 6 Oosterland Street, Oosterland
Park, Huguenote, Paarl, 7646,
South Africa

MANUFACTURER:

The Bio Consulting (Pty) Ltd.

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DISTRIBUTED BY:

Oro Agri SA (Pty) Ltd.

REG. No 2001/027414/07

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WITHHOLDING PERIOD

- There is no withholding period prior to harvest, graze or fodder or re-entering into treated orchards or any other treated crop. Treated seed can be used for feeding.

WARNINGS

- Use only as directed.
- Avoid eye contact as the undiluted concentrate may cause irritation.
- Store away from food and feeds.
- Keep out of reach of children, animals and uninformed persons.
- Store in a cool dry place, above 5°C in original containers.
- Always ensure lids of used containers are tightly closed when not in use.
- Although **CROPBIOLIFE®** has been extensively tested under a large variety of conditions the registration, holder does not warrant that it will be efficacious under all conditions, because

the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the method, time and accuracy of application.

- The registration holder furthermore does not accept responsibility for damage to crops, vegetation, environment or harm to man or animal or for lack of performance of **CROPBIOLIFE®** concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration.
- Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- Avoid inhaling fumes and spray mist.
- In case of contact with the eyes, rinse immediately with plenty of water for at least 5 minutes.
- Wear protective clothing, rubber gloves and protective safety goggles or glasses in case of prolonged contact with the undiluted concentrate.
- Prevent contamination of food, feed, drinking water and eating utensils with the undiluted concentrate.

- Spray drift containing **CROPBIOLIFE®** will have no adverse effect on any crops, grazing, dams, open water or animals. Such crops, grazing, dams, open water, etc., will remain safe for human and animal consumption.
- When empty rinse the container three times with a volume of water equal to a minimum of 10% of that of the container.
- Add the rinsing water to the contents of the spray tank.
- Destroy empty container by perforating and flattening it and never use for any other purpose.

PRODUCT DESCRIPTION

- **CROPBIOLIFE®** is a complex of carbon compounds extracted mainly from citrus (bitter orange - *Citrus aurantium*), palm and coconut oil with an added blend of mild organic fruit grade ingredients (100% natural).
- Non-toxic and non-corrosive.

DIRECTIONS FOR USE

USE ONLY AS DIRECTED

COMPATIBILITY

- **CROPBIO LIFE®** should not be tank mixed with fungicides, insecticides, growth regulators, surfactants, water soluble foliar nutrients and selective post emergence grass and broad leaf herbicides IF there has been no experience or use of the combination in different crops previously; **consult your local supplier.**
- Do not apply **CROPBIO LIFE®** and foliar applied macro and / or micro nutrients as tank mixtures to fruit or berries with sensitive skins between set and harvest as fruit finish can be adversely affected, however **CROPBIO LIFE®** and foliar nutrients can be applied alternatively in a program without any adverse effect.

IMPORTANT

- To improve compatibility and coverage of the seeds, always add WETCIT® (Reg. No: L7440) at 2 ml/litre first to the mixture before mixing with **CROPBIO LIFE®** and the other seed dressing products.
- Do not combine **CROPBIO LIFE®** with micro nutrient formulations as a seed dressing.

MIXING INSTRUCTIONS

SHAKE WELL BEFORE USE

- Always add **CROPBIO LIFE®** first to a half filled spray tank, agitate properly and then add the rest.
- Do not allow **CROPBIO LIFE®** mixtures combined with other agrochemicals to stand overnight or for prolonged periods. Always ensure thorough agitating during mixing and spraying.

GROUND APPLICATION

- The volume of **CROPBIO LIFE®** per hectare is always based on high volume applications. For tree row crops a concentration of 50 ml/100 l water is used when spray volume does not exceed 1000 l/hectare. If high volume applications exceed 1000 l spray mixture/hectare do not apply more than 500 ml **CROPBIO LIFE®**/hectare.
- See specific recommendations for perennial and annual crops below.
- Do not spray when rain is expected within 4-6 hours after application.
- Apply **CROPBIO LIFE®** preferably under cool to mild conditions and ensure ambient temperatures do not rise above 25°C within two hours after application.
- Always ensure thorough coverage of all above ground plant parts (also inside the canopy) for optimum performance.

DOSAGE RATES

CROPS	CONCENTRATION/100 ℓ AND/OR (DOSAGE/ha)	REMARKS
<p>Citrus</p>	<p>50 mℓ CROPBIOLIFE® per 100 ℓ water 300 - 500 mℓ/ha</p>	<p>FOR IMPROVED SET, FRUIT SIZE DISTRIBUTION, COLOUR AND THE JUICE VALUES. (MATURITY INDICES):</p> <ul style="list-style-type: none"> For optimum fruit set commence sprays in the period two to four weeks after bud break. If enhanced fruit set is not needed postpone 1st spray until the 80 - 100% petal drop stage. Apply two further sprays with 28 day intervals irrespective of the timing of the 1st spray. If high volume recommendations exceed 1000 ℓ spray mixture/ha do not apply more than 500 mℓ CROPBIOLIFE®/ha. If less than 1000 ℓ is applied per ha not apply less than 300 mℓ CROPBIOLIFE®/ha (non-bearing trees). For non-bearing trees follow the same protocol as for deciduous fruit.
<p>Deciduous Fruit</p> <p>Apples, pears, plums, apricots, peaches, nectarines, pomegranates, persimmons, tree nuts (<i>Almonds, Macadamia, Pecans, Pistachio, Wall nut, Hazelnut and Cashew nut</i>)</p>	<p>50 mℓ CROPBIOLIFE® per 100 ℓ water 300 - 500 mℓ/ha</p>	<p>FOR IMPROVED SET, FRUIT FINISH, FRUIT SIZE, FIRMNESS AND COLOUR (RED APPLE, PEAR AND PLUM VARIETIES) WHERE APPLICABLE:</p> <ul style="list-style-type: none"> Commence sprays at 50 - 100% blossom followed by two further sprays 28 days apart. If high volume sprays exceed 1000 ℓ spray mixture/ha, do not apply more than 500 mℓ CROPBIOLIFE®/ha. For varieties with a short growing period (like certain nectarines) do not apply more than 2 sprays from blossom to harvest. A postharvest spray is recommended as the 3rd spray. For non-bearing trees do not apply less than 300 mℓ CROPBIOLIFE®/ha per spray commencing 21 days after bud break followed by 3 further sprays with 28 day intervals. See compatibility regarding foliar applied nutrients on fruit finish.
<p>Avocado, Mangoes, and Olives</p>	<p>50 mℓ CROPBIOLIFE® per 100 ℓ water 300 - 500 mℓ/ha</p>	<p>FOR IMPROVED SET AND FRUIT SIZE:</p> <ul style="list-style-type: none"> Commence sprays two weeks prior to blossom followed by two further sprays 28 days apart. If high volume recommendations exceed 1000 ℓ spray mixture/ha do not apply more than 500 mℓ CROPBIOLIFE®/ha. If less than 1000 ℓ is applied per ha, do not apply less than 300mℓ CROPBIOLIFE®/ha (non-bearing trees). For non-bearing trees follow the same protocol as recommended for deciduous fruit.

CROPS	CONCENTRATION/100 ℓ AND/OR (DOSAGE/ha)	REMARKS												
<p>Grapes</p> <p>Wine and table grapes</p>	<p>50 mℓ CROPBIO LIFE® per 100 ℓ water</p> <p>300 - 500 mℓ/ha</p>	<p>WINE GRAPES</p> <ul style="list-style-type: none"> • FOR IMPROVED SET AND BERRY SIZE: Commence sprays at 20 - 30 cm shoot length. A minimum of 300 mℓ/ha is recommended for this early spray. Apply a 2nd spray 28 days later (± cap fall) at 300 mℓ/ha and a 3rd spray 28 days later (± pea berry size) at 400 mℓ/ha (do not apply less than 1 ℓ/ha per season). The latter two sprays will result in enhanced colouring of the berries of red varieties. It is often found that the complete spray program resulted in higher titratable acid values. <p>TABLE GRAPES</p> <ul style="list-style-type: none"> • FOR IMPROVED SET AND BERRY SIZE: Commence sprays at 20 - 30 cm shoot length. A minimum volume of 400 mℓ/ha is recommended for this early spray. IF improved set is not needed postpone this pre blossom spray until blossom to cap fall at 400 mℓ/ha. • FOR IMPROVED BERRY SIZE AND COLOURING OF RED TABLE GRAPES: Apply two further sprays at 28 day intervals applying 400 mℓ and 500 mℓ/ha for the 2nd and 3rd spray respectively. • TO ENHANCE COLOURING OF RED TABLE GRAPES: Apply CROPBIO LIFE® at 500 mℓ in combination with 300 mℓ Ethylene/ha 7 day's post véraison. If no CROPBIO LIFE® was applied prior to véraison, a 2nd post véraison spray at the same rates can be applied 4 - 7 days later. 												
<p>Seed Treatment</p> <p>Wheat, barley, oats, lupines and canola</p>	<p>50 - 100 mℓ CROPBIO LIFE® per 100 kg seed + WETCIT® 2 mℓ/1 ℓ water</p>	<p>FOR IMPROVED GERMINATION, EMERGENCE AND ROOT DEVELOPMENT Use the following CROPBIO LIFE® concentrations per crop:</p> <table border="1" data-bbox="484 698 1000 869"> <thead> <tr> <th>Crop</th> <th>Concentration CROPBIO LIFE®</th> <th>Volume of water / 100 kg seed</th> </tr> </thead> <tbody> <tr> <td>Oats</td> <td>50 mℓ</td> <td>750 mℓ</td> </tr> <tr> <td>Wheat, Barley</td> <td>50 - 100 mℓ*</td> <td>800 - 1000 mℓ</td> </tr> <tr> <td>Lupines, Canola</td> <td>50 - 100 mℓ*</td> <td>500 - 600 mℓ</td> </tr> </tbody> </table> <p>SEE DIRECTIONS FOR USE: Compatibility Seed treatments:</p> <ul style="list-style-type: none"> • Only FS formulations are recommended. • CROPBIO LIFE® will not have any adverse effect on germination when seed is stored up to 100 days. <p>*Use 100 mℓ for improved early root development and seed coat sterilization.</p>	Crop	Concentration CROPBIO LIFE®	Volume of water / 100 kg seed	Oats	50 mℓ	750 mℓ	Wheat, Barley	50 - 100 mℓ*	800 - 1000 mℓ	Lupines, Canola	50 - 100 mℓ*	500 - 600 mℓ
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CROPS	CONCENTRATION/100 ℓ AND/OR (DOSAGE/ha)	REMARKS
<p>Seed Treatment followed by foliar sprays</p> <p>Wheat, barley, oats, lupines and canola</p>	<p>100 mℓ CROPBIO LIFE® per ha</p>	<p>FOR IMPROVED YIELD Timing:</p> <ul style="list-style-type: none"> • Wheat, barley and oats: Apply 1st spray at 4-6 leaf and if dry periods are expected during the flag leaf to flowering stage, a 2nd spray is recommended. • Lupines: Apply 1st foliar spray at the 7-8 leaf stage which coincides normally with the start of the reproductive initiation (primary flower spikes of the main stem). A 2nd spray can be applied 28 days later if plants are under stress (drought, high temperatures). • Canola: Apply 1st spray at the rosette to start of stem extension (bolting) stage. A 2nd spray can be applied 28 days later if plants are under stress (drought, high temperatures).
<p>Foliar sprays without seed treatment</p> <p>Wheat, barley, oats, lupines, canola and lucerne</p>	<p>100 - 150 mℓ CROPBIO LIFE® per ha</p>	<ul style="list-style-type: none"> • Apply two foliar sprays at timings recommended for Seed Treatment followed by foliar sprays above. • A 2nd spray should always follow 28 days later irrespective weather conditions. • Use the higher rate when adverse stress conditions such as very cold or high temperatures are expected. • Always ensure proper coverage of foliage.
<p>Potatoes</p> <p>Table and seed potatoes</p>	<p>250 mℓ CROPBIO LIFE® per ha</p>	<p>FOR IMPROVED YIELD AND TUBER SIZE DISTRIBUTION:</p> <ul style="list-style-type: none"> • Apply 1st spray two weeks after emergence followed by 2 further sprays with 21 to 28 day intervals. • Always ensure good coverage of all foliar parts.
<p>Onions and Garlic</p> <p>Seedbed and transplanted</p>	<p>SEEDBED</p> <p>50 mℓ CROPBIO LIFE® per 100 ℓ water soil drench</p> <hr/> <p>TRANSPLANTED</p> <p>250 mℓ CROPBIO LIFE® per ha</p>	<p>FOR ROOT DEVELOPMENT AND REDUCTION OF TRANSPLANT SHOCK:</p> <ul style="list-style-type: none"> • Apply as a soil drench to seedbeds at the two leaf stage and again 14 days prior to transplanting. • If seedbeds were not treated apply 1st spray within a week after transplanting but if seedbed was treated commence 1st spray at 21 days after transplanting and repeat 2 times at 28 day intervals. • Always ensure proper coverage of all foliar parts. • Add WETCIT® as a wetter at 100 mℓ/100 ℓ water to improve spreading on waxy leaf surfaces.

CROPS	CONCENTRATION/100 ℓ AND/OR (DOSAGE/ha)	REMARKS
<p>Tomatoes, peppers, and brinjal (eggplant)</p> <p>Seedling trays and transplanted</p>	<p>SEEDLING TRAYS</p> <p>50 mℓ CROPBIOLIFE® per 100 ℓ water drench solution</p> <hr/> <p>AFTER TRANSPLANTING</p> <p>150 - 500 mℓ CROPBIOLIFE® per ha</p>	<p>FOR ROOT DEVELOPMENT AND REDUCTION OF TRANSPLANT SHOCK:</p> <p>Seedling drench:</p> <ul style="list-style-type: none"> • Drench seedling trays at least twice during the seedling stage of which the last one should be 14 days prior to transplanting. <p>TO IMPROVE SET AND YIELD:</p> <ul style="list-style-type: none"> • If seedling trays were not drenched commence sprays within one week after transplanting but if drenched, apply 1st spray 14-21 days after transplanting. Apply 2-3 further sprays at 28 day intervals. As plants develop, adapt CROPBIOLIFE® dosage/ha according to recommended high volume applications. When more than 1000 ℓ spray mixture is applied /ha do not apply more than 500 mℓ CROPBIOLIFE®/ha. • Add WETCIT® as a wetter at 100 mℓ/100 ℓ water to improve spreading on waxy leaf surfaces.
<p>Cabbage, cauliflower, broccoli, celery, spinach and lettuce</p>	<p>SEEDLING TRAYS</p> <p>50 mℓ CROPBIOLIFE® per 100 ℓ water drench solution</p> <hr/> <p>AFTER TRANSPLANTING</p> <p>250 mℓ CROPBIOLIFE® per ha</p>	<p>TO IMPROVE ROOT DEVELOPMENT AND TRANSPLANTING SHOCK:</p> <p>Seedling drench:</p> <ul style="list-style-type: none"> • Drench seedling trays at least twice during the seedling stage of which the last one should be 14 days prior to transplanting. <p>TO IMPROVE HEAD SIZE AND YIELD:</p> <ul style="list-style-type: none"> • If seedling trays were not drenched commence sprays within one week after transplanting but if drenched, apply 1st spray 14-21 days after transplanting. Apply 2 further sprays at 28 day intervals. • Add WETCIT® at 100 mℓ/100 ℓ water as a wetter for Improved spreading on waxy leaf surfaces.
<p>Cucurbits</p> <p>Pumpkins, watermelons, melons and cucumbers <i>(Open field)</i></p> <p>Cucumbers <i>(Under cover and trellised)</i></p>	<p>250 mℓ CROPBIOLIFE® per ha</p> <p>50 mℓ CROPBIOLIFE® per 100 ℓ water</p>	<p>FOR IMPROVED SET AND YIELD:</p> <ul style="list-style-type: none"> • Commence sprays 14 days post emergence and repeat 2 times at 28 day intervals. • Start sprays 7 days after transplanting and repeat every 28 days for 2-3 further sprays. Adjust spray volume according to plant growth. Do not apply more than 500 mℓ/ha.

CROPS	CONCENTRATION/100 ℓ AND/OR (DOSAGE/ha)	REMARKS
Maize	100 mℓ CROPBIOLIFE® per ha	<p>FOR IMPROVED YIELD AND BIOMASS (SILAGE):</p> <ul style="list-style-type: none"> Apply 1st spray at 4-6 leaf stage followed by a 2nd one 28 to 35 days later (pre tasselling stage).
Soybeans, sunflowers, groundnuts, green beans and dry beans	100 mℓ CROPBIOLIFE® per ha	<ul style="list-style-type: none"> Apply 1st application at 4-5 leaf stage and a 2nd one 28 days later at the pre flowering stage. Always ensure proper covering of all plant parts.