

Tomato Bio Crop Guideline

A suggested guideline for the sustainable production of tomatoes. Improve crop health and productivity while building root health and fertility.



Root Health Program

Product: Application and Rates	Purpose
Laying Foundations	
<i>Humate Granules</i> : 5 kg/ha in pre-plant granular fertiliser blend.	<ul style="list-style-type: none"> Improves efficiency of fertiliser and maximises nutrient utilisation.
<i>Fulvic acid</i> : 2-5 kg/ha as soil application, or as 1-2% part of liquid fertilizer blend.	<ul style="list-style-type: none"> Natural chelator, plant growth promotor and microbial stimulant.
<i>Eco-T</i> [®] : 500 g/ha soil drench at plant or 20 g/kg as a seed treatment. Repeat monthly through irrigation @ 250 g/ha.	<ul style="list-style-type: none"> Stimulates healthy root development. Suppression of fungal soil borne diseases.
<i>RhizoVital</i> [®] 42: 500 ml/ha in furrow or soil drench through irrigation at plant. Repeat monthly. Full dose can be divided into smaller dosages and applied more regularly.	<ul style="list-style-type: none"> Beneficial bacteria to build soil health and aid in prevention of soil borne diseases. Mobilisation and improved uptake of phosphate and other nutrients.
<i>V¹² Initiate</i> : 5 kg/ha in furrow or through irrigation at plant.	<ul style="list-style-type: none"> B, Si, Ca and biostimulants initiate the nutrition cycle and support germination and early growth.
<i>AgriSi</i> [®] K50: 1 - 4 L/ha as soil drench through irrigation, every 7 - 10 days from emergence or transplant. Do not over irrigate.	<ul style="list-style-type: none"> Silica supplement to support immunity and stress tolerance.

Plant Vitality Program: *Plant Maintenance*

Product: Application and Rates	Purpose
Stimulate Vegetative Growth	
<i>V¹² Shoot</i> : 0.5 - 1 L/ha foliar application 2 weeks after emergence or transplant. Repeat 28 days after first application and as needed thereafter.	<ul style="list-style-type: none"> Stimulate vegetative growth.
Optimise Flowering and Fruit Set	
<i>V¹² Fruit</i> : 500 ml/ha foliar application at first flowering. Repeat at fruit set. For varieties with extended flowering repeat application every 2 - 4 weeks.	<ul style="list-style-type: none"> Brassinolides and Boron to stimulate flowering, fruit set and ripening. Improved quality and quantity of fruit.
Nutrient Management	
<i>V¹² Multi</i> [®] : 3 - 5 L/ha foliar application. When necessary for stress or to improve overall plant health.	<ul style="list-style-type: none"> Supplement nutrition during periods of stress and critical growth periods. See table below for suggested applications.
<i>V¹² Micro</i> [®] : 2 L/ha foliar application. When necessary to correct micro nutrient deficiencies.	<ul style="list-style-type: none"> Micronutrient supplement to aid in deficiency management.
Plant Stress and Strength	
<i>AgriSi</i> [®] K50: 1 - 4 L/ha as foliar application or soil drench through irrigation. Low rates can be applied every 7 to 10 days from emergence or transplant, under low stress conditions and when plants are small. Apply high dose rates when applications are done further apart, under high stress conditions and on large plants.	<ul style="list-style-type: none"> Silica supplement to support immunity and stress tolerance.

Bio Crop Protection: *Disease and Pest Management*

Product: Application and Rates	Purpose
Disease Management	
<i>Eco-77</i> [®] : 50 g/ 100 L water (250 - 500 g/ha) as a full cover foliar application at first bloom or after crop damage i.e. pruning, pest, hail or chemical applications. Repeat applications as needed.	<ul style="list-style-type: none"> Suppression of <i>Botrytis</i>
<i>Eco-T</i> [®] : 500 g/ha soil drench at plant or 20 g/kg as a seed treatment. Repeat monthly through irrigation @ 250 g/ha. Stimulates healthy root development.	<ul style="list-style-type: none"> Suppression of fungal soil borne diseases, i.e. <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Phytophthora</i>, etc.

Product: Application and Rates	Purpose
Pest Management	
<i>Eco-Bb</i> [®] : 300 - 600 g/ha as full cover foliar application. Repeat every 5 to 7 days under high pest pressure, or every 7 to 14 days under low pest pressure. Use the double rate with high infestation levels.	<ul style="list-style-type: none"> Suppression of Red spider mite, Whitefly and <i>Tuta absoluta</i>.
<i>Bolldex</i> [®] : 200 ml/ha foliar application when pest is first noticed - eggs or 1 st instar larvae. Repeat applications every 7 to 10 days until bollworm is under control.	<ul style="list-style-type: none"> Suppression of African bollworm
<i>Delfin</i> [®] WG: 1 kg/ha as a full cover foliar application when pest is first noticed - eggs or 1 st instar larvae.	<ul style="list-style-type: none"> Suppression of <i>Tuta absoluta</i>

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Application Timing

Application timing is a guide only.
Can be amended according to season, crop and location.



	Product	Pre-plant	Planting	Emergence	Vegetative Growth	First Flower	Full Flower	Fruit Development	
Root Health	<i>Humate Granules</i>	5 kg/ha							
	<i>Fulvic Acid</i>				Apply as needed				
	<i>Eco-T[®]</i>		500 g/ha				250 g/ha monthly		
	<i>RhizoVital[®] 42</i>		500 ml/ha				Up to 500 ml/ha monthly or as needed		
	<i>V¹² Initiate</i>		5 kg/ha						
Plant Vitality	<i>AgriSil[®] K50</i>			1 L/ha	2 L/ha		2 - 4 L/ha every 7 to 10 days as needed		
	<i>V¹² Shoot</i>				0.5 - 1 L/ha as needed				
	<i>V¹² Fruit</i>					500 ml/ha	500 ml/ha		
	<i>V¹² Multi[®]</i>				3 - 5 L/ha		3 - 5 L/ha		3 - 5 L/ha
Bio Crop Protection	<i>Eco-Bb[®]</i>				300 - 600 g/ha as needed for Red Spider Mite, Whitefly, <i>Tuta absoluta</i> . Repeat as needed.				
	<i>Delfin[®] WG</i>			1 kg/ha foliar application for management of Lepidopteran larvae when pest is first noticed. Target first instar larvae.					
	<i>Bolldex[®]</i>			200 ml/ha as necessary for management of African Bollworm. Apply when pest is first noticed. Target eggs or first instar larvae.					
	<i>Eco-77[®]</i>			50 g/100 L water (250 - 500 g/ha) as needed for <i>Botrytis</i> suppression.					

AgriSil[®] K50 contains potassium silicate. Reg. No. B3756, Act No. 36 of 1947, skin irritant. PQ Silicas South Africa (Pty) Ltd, PO Box 14016, Wadeville, 1422. Reg. No. 2000/027189/07. Fulvic Acid Powder contains fulvic acid. Reg. No. B4796; Humate Granules contain humic acid and potassium. Reg. No. B4797; RhizoVital[®] 42 contains *Bacillus amyloliquefaciens* FZB42. Reg. No. B4201; Bolldex[®], contains *Helicoverpa armigera* Nucleopolyhedrovirus (HearNPV). Reg. No. L8895; Delfin[®] WG, contains *Bacillus thuringiensis* subsp. *kurstaki* strain SA-11. Reg. No. L9761; V¹² Initiate contains potassium, sulphur, calcium, magnesium, manganese, zinc, iron, silica, copper, molybdenum and boron. Reg. No. B4513, Act No. 36 of 1947; V¹² Fruit, contains nitrogen, sulphur and boron. Reg. No. B4511; V¹² Micro[®], contains nitrogen, potassium, magnesium, sulphur, iron, manganese, zinc, copper, boron and molybdenum. Reg. No. B4514; V¹² Multi[®] contains nitrogen, phosphorus, potassium, sulphur, magnesium, iron, copper, zinc, manganese, boron and molybdenum. Reg. No. K4512; V¹² Shoot contains nitrogen, magnesium, sulphur, iron, manganese and molybdenum. Reg. No. B4510, Act No. 36 of 1947 - Andermatt Madumbi (Pty) Ltd, Postnet Suite 20, Private Bag X6011, Hilton, 3245. Reg. No. 2009/020798/07. Eco-77[®], contains *Trichoderma atroviride*. Reg. No. L7495; Eco-Bb[®], contains *Beauveria bassiana*. Reg. No. L8469; Eco-T[®] contains *Trichoderma asperellum*. Reg. No. L6938, Act No. 36 of 1947. Andermatt PHP (Pty) Ltd, PO Box 207, Nottingham Road, 3280. Reg. No. 2003/007987/07.

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