Poly-Feed™ Crop Nutrition Program

Haifa

Pioneering the Future

www.haifa-group.com

Contents

Poly-Feed™

Soluble NPK fertilizers

Poly-Feed™ is a range of fully water-soluble NPK fertilizers, designed to provide complete plant nutrition throughout the growth season. The wide choice of formulae and compositions meets the needs of vegetable crops, fruit-trees and flowers at all growth environments.
Poly-Feed™ products enable growers feed crops according to their developing needs by means of Nutrigation™ and Foliar Feeding, application methods that offer maximum efficiency of nutrient use, optimal growth and minimized pollution of soil, water and air.

The special advantages of Poly-Feed™ products

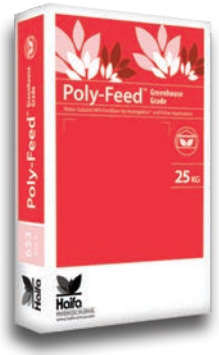
- Fully water soluble, safe for use with all irrigation and spraying systems
- Consist of pure plant nutrients exclusively
- Free of chloride, sodium, and other detrimental elements
- Made of high quality ingredients
- Enriched with high levels of micronutrients

Poly-Feed™ product lines

- **Poly-Feed™ GG** For soil and soilless grown greenhouse crops
- **Poly-Feed™ Foliar** Special formulae for foliar feeding
- **Poly-Feed™ Stim** Combined solutions for better crop production

Poly-Feed™ GG

Greenhouse-grade formulae



Intensive crop production in greenhouse requires maximum control over all growth parameters. Under fully controlled environment, precise supply of plant nutrients is a prerequisite to ensure optimal development and maximal yields.

Poly-Feed™ GG is a range of rich, balanced fertilizers for soil and soilless greenhouse crops. Nutrigation™ with Poly-Feed™ GG provides complete plant nutrition through all growth stages.

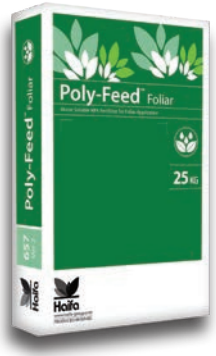
The advantages of using Poly-Feed™ GG pre-calculated formulae

- Saving on time and efforts in preparations
- Accurate composition of the nutrient solution, with no errors
- No wastes and losses of expensive raw materials

Poly-Feed™ GG formulae are also suitable for foliar application.
Poly-Feed™ GG is easily identified by the red color of both the bag and the product.

Poly-Feed™ Foliar

NPK fertilizers for foliar feeding



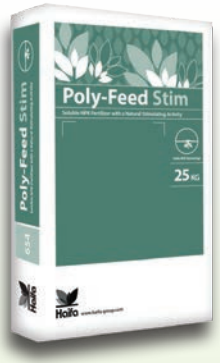
Poly-Feed™ Foliar nourishes crops with their exact needs during critical growth phases, for maximum yields and top quality. Foliar spraying with Poly-Feed™ Foliar is commonly used as a supplement to soil-applied fertilizers. Under certain growth conditions, foliar feeding with Poly-Feed™ Foliar can replace soil application of fertilizers, mainly for short-season crops.

Poly-Feed™ Foliar formulae are based on low-biuret urea and contain high concentrations entrations of micro-nutrients in the form of EDTA chelates.

Poly-Feed™ Foliar is easily identified by the green color of both the bag and the product.

Poly-Feed™ Stim

Combined solutions for better crop production



Poly-Feed™ Stim is a range of products that combine Haifa's high-quality water-soluble fertilizers with natural bio-stimulant compounds. Poly-Feed™ Stim products provide the growing plant with optimal nutrition, while enhancing the performance of physiological mechanisms and improving the entire growth system. This results in healthy development and better yield.

Complete fertilization program should include continuous supply of nutrients by Nutrigation™, and supplemental foliar application to support growth at critical stages.

See reverse side of this sheet.

Tomato Open Field, Target Yield = 70 MT/Ha

Foliar application

Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 12-5-40+1MgO+ME	
Application rate	1-2 kg/ha	1-2 kg/ha	2-4 kg/ha	
Spray Conc. / Volume	0.5%-1% / 200 l/ha	0.5%-1% / 200 l/ha	1.5%-2% / 300-400 l/ha	
Application frequency	Every 14 days	Every 14 days	Every 14 days	
Growth stage				
	Vegetative stage	First flowering cluster and first fruit-set	Fruit filling + new flowering clusters	Ripening and harvest
Stage duration (days)	25	30	20	20

Soil application / Nurtigation™

Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	8 kg/ha/day	16 kg/ha/day	19.25 kg/ha/day	19.25 kg/ha/day
Total volume per stage	200 Kg/ha	480 Kg/ha	385 Kg/ha	385 Kg/ha

Tomato Greenhouse Soil, Target Yield = 160 MT/Ha

Foliar application				
Product		Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 21-11-21+2MgO+ME	Poly-Feed™ 12-5-40+1MgO+ME
Application rate		1-2 kg/ha	2-4 kg/ha	2-4 kg/ha
Spray Conc. / Volume		1%-1.5% / 200-300 l/ha	1.5%-2% / 300-400 l/ha	1.5%-2% / 300-400 l/ha
Application frequency		Every 14 days	Every 14 days	Every 14 days
Growth stage				
	Vegetative stage	First flowering cluster and first fruit-set	Fruit filling + new flowering clusters	Ripening - end of growth cycle
Stage duration (days)	8	25	30	110
Soil application / Nurtigation™				
Product	Poly-Feed™ 15-30-15+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	8 kg/ha/day	13 kg/ha/day	21.5 kg/ha/day	19.5 kg/ha/day
Total volume per stage	64 Kg/ha	325 Kg/ha	650Kg/ha	2145 Kg/ha

Bell Pepper Open Field, Target Yield = 80 MT/Ha

Foliar application

Product		Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 21-11-21+2MgO+ME	Poly-Feed™ 12-5-40+1MgO+ME
Application rate		1-2 kg/ha	2-4 kg/ha	2-4 kg/ha
Spray Conc. / Volume		1%-1.5% / 200-300 l/ha	1.5%-2% / 300-400 l/ha	1.5%-2% / 300-400 l/ha
Application frequency		Every 14 days	Every 14 days	Every 14 days
Growth stage				
	Establishment stage	Vegetative	Fruit set to first harvest	First to last harvest
Stage duration (days)	14	14	40	75

Soil application / Nurtigation™

Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	8 kg/ha/day	20 kg/ha/day	30 kg/ha/day	19 kg/ha/day
Total volume per stage	80 Kg/ha	325 Kg/ha	650Kg/ha	1700 Kg/ha

Bell Pepper Protected Soil, Target Yield = 100 MT/Ha

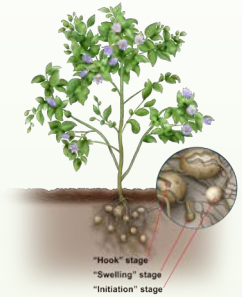
Growth stage	 Establishment stage	 Vegetative to fruit-set	 Fruit set to first harvest	 First to last harvest
Stage duration (days)	10	25	20	100
Soil application / Nurtigation™				
Product	Poly-Feed™ 15-30-15+ME	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	8 kg/ha/day	13 kg/ha/day	38.5 kg/ha/day	17 kg/ha/day
Total volume per stage	80 Kg/ha	325 Kg/ha	650Kg/ha	1700 Kg/ha

Cucumber Protected Soil, Target Yield = 120 MT/Ha

Growth stage	 Establishment	 Early flowering and fruit-set	 Flowering and fruit-set	 Harvest
Stage duration (days)	7	14	14	56
Soil application / Nurtigation™				
Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	6 kg/ha/day	16 kg/ha/day	20 kg/ha/day	28 kg/ha/day
Total volume per stage	80 Kg/ha	224 Kg/ha	280 Kg/ha	1540 Kg/ha

Potato, Target Yield = 60 MT/Ha

Foliar application

Product		Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 12-5-4+1MgO+ME
Application rate		2-4 kg/ha	2-4 kg/ha
Spray Conc. / Volume		2%-5% / 50-80 l/ha	2%-4% / 50-80 l/ha
Application frequency		Every 14 days	2 aplications
Growth stage			
	Planting and establishment	Tuber initiation	Tuber growth
Stage duration (days)	30	25	55

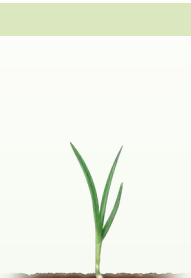
Soil application / Nurtigation™

Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	6 kg/ha/day	18 kg/ha/day	18 kg/ha/day
Total volume per stage	180 Kg/ha	450 Kg/ha	990 Kg/ha

Onion, Target Yield = 50 MT/Ha

Foliar application			
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 19-19-19+1MgO+ME	
Application rate	1-2 kg/ha	1-2 kg/ha	
Spray Conc. / Volume	0.5%-1% / 200 l/ha	0.5%-1% / 200 l/ha	
Application frequency	Every 14 days	Every 14 days	
Growth stage			
	Planting and establishment	Onion development	Onion growth
Stage duration (days)	40	60	70
Soil application / Nurtigation™			
Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	3 kg/ha/day	6 kg/ha/day	9 kg/ha/day
Total volume per stage	120 kg/ha	360 kg/ha	630 kg/ha

Garlic, Target Yield = 20 MT/Ha

Foliar application				
Product	Poly-Feed™ 12-5-40+ME			
Application rate	1-2 kg/ha			
Spray Conc. / Volume	0.5%-1% / 200 l/ha			
Application frequency	Every 7 days			
Growth stage				
Stage duration (days)	Establishment 30	Vegetative stage 60	Bulbing stage 40	Mature stage 30
Soil application / Nurtigation™				
Product	Poly-Feed™ 15-30-15+ME	Poly-Feed™ 21-11-21+2MgO+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	2 kg/ha/day	5 kg/ha/day	5 kg/ha/day	6.5 kg/ha/day
Total volume per stage	60 kg/ha	300 kg/ha	200 kg/ha	195 kg/ha

Apple, Target Yield = 50 MT/Ha

Foliar application	20%-30% flowers	After petal fall		During fruit development
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 19-19-19+1MgO+ME	Haifa Cal GG and/or Poly-Feed™ 12-5-40+ME	Poly-Feed™ 19-19-19+1MgO+ME
Application rate	10-30kg/ha	10-30kg/ha	20-40kg/ha	10-30kg/ha
Spray Conc. / Volume	0.5%-1% / 1000-3000 l/ha	0.5%-1% / 1000-3000 l/ha	1%-2% / 1000-4000 l/ha	0.5%-1% / 1000-3000 l/ha
Application frequency	Every 14 days	Every 14 days	Every 14 days	Every 14 days
Growth stage				
Stage duration (days)	Blooming to flowering 30	Petal fall to fruit set 20	Fruit-set to harvest 70	Post harvest 30

Soil application / Nurtigation™				
Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	5 kg/ha/day	4 kg/ha/day	4.5 kg/ha/day	2 kg/ha/day
Total volume per stage	150 kg/ha	80 kg/ha	315 kg/ha	60 kg/ha

* Do not apply N fertilizers during fruit ripening for color braking varieties

Pear, Target Yield = 25 MT/Ha

Foliar application	20%-30% flowers		After petal fall	During fruit development
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 12-43-12+ME	Poly-Feed™ 12-5-40+ME	Poly-Feed™ 19-19-19+1MgO+ME
Application rate	10-30kg/ha	10-30kg/ha	15-40kg/ha	10-30kg/ha
Spray Conc. / Volume	0.5%-1% / 1000-3000 l/ha	0.5%-1% / 1000-3000 l/ha	1%-2% / 1000-4000 l/ha	0.5%-1% / 1000-3000 l/ha
Application frequency	Every 14 days	Every 14 days	Every 14 days	Every 14 days
Growth stage				
Stage duration (days)	Blooming to flowering 30		Petal fall to fruit set 20	Fruit-set to harvest 70	Post harvest 30
Soil application / Nurtigation™				
Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	3 kg/ha/day	3.5 kg/ha/day	3.5 kg/ha/day	1.5 kg/ha/day
Total volume per stage	90 kg/ha	70 kg/ha	250 kg/ha	45 kg/ha

Peach-Nectarine, Target Yield = 35 MT/Ha

Foliar application	20%-30% flowers	After petal fall	During fruit development	
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 12-43-12+ME	Poly-Feed™ 12-5-40+ME	Poly-Feed™ 19-19-19+1MgO+ME
Application rate	10-30kg/ha	10-30kg/ha	10-30kg/ha	10-30kg/ha
Spray Conc. / Volume	0.5%-1% / 1000-3000 l/ha	0.5%-1% / 1000-3000 l/ha	1%-2% / 1000-3000 l/ha	0.5%-1% / 1000-3000 l/ha
Application frequency	Every 14 days	Every 14 days	Every 14 days	Every 14 days
Growth stage				
Stage duration (days)	Blooming to flowering 35		Petal fall to fruit set 15	Fruit develoment 90	Post harvest 30

Soil application / Nurtigation™				
Product	Poly-Feed™ 20-20-20+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME	Poly-Feed™ 14-10-34+ME
Application rate	3 kg/ha/day	3 kg/ha/day	3.5 kg/ha/day	1.5 kg/ha/day
Total volume per stage	105 kg/ha	45 kg/ha	315 kg/ha	45 kg/ha

*Do not apply N fertilizers during fruit ripening for color braking varieties

Wheat, Target Yield = 40-60 MT/Ha

Foliar application		
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 21-11-21+2MgO+ME
Application rate	5 kg/ha	5 kg/ha
Spray Volume	200-400 l/ha	200-400 l/ha
Application frequency	Every 14 days	Every 14 days

Growth stage

	Tillering	Stem extension	Booting	Heading	Ripening
Stage duration (days)	25	30	10	20	30

Sugar Beet, Target Yield = 40-50 MT/Ha

Foliar application		
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 15-7-30+2MgO+ME
Application rate	3-5 kg/ha	5 kg/ha
Spray Volume	200-400 l/ha	200-400 l/ha
Application frequency	Every 14 days	Every 14 days

Growth stage

	Establishment	Vegetative and beet formation	Beet growth	Ripening
Stage duration (days)	30	30	60	50

Maize-Corn, Target Yield = 15-23 MT/Ha

Foliar application

Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 21-11-21+2MgO+ME
Application rate	3-5 kg/ha	3-5 kg/ha
Spray Volume	200 l/ha	200 l/ha
Application frequency	Every 14 days	Every 14 days

Growth stage				
	Establisment	Vegetative	Tasseling	Silking
Stage duration (days)	20	35	15	15

Soybean, Target Yield = 3-4 MT/Ha

Foliar application		
Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 12-5-40+ME
Application rate	5 kg/ha	6 kg/ha
Spray Volume	200-400 l/ha	200-400 l/ha
Application frequency	Every 14 days	Every 7 days

Growth stage

	Establishment	Vegetative	Flowering	Pod developmant	Ripening
Stage duration (days)	10	30	35	40	15

Rape Seed-Canola (Spring), Target Yield = 4 MT/Ha

Foliar application

Product	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 19-19-19+1MgO+ME	Poly-Feed™ 15-7-30+ME
Application rate	3.5 kg/ha	3.5 kg/ha	5 kg/ha
Spray Volume	200-400 l/ha	200-400 l/ha	300-500 l/ha
Application frequency	Every 14 days	Every 14 days	Every 7 days
Growth stage			
	Establishment	Leaf rosette	Vegetative
Stage duration (days)	25	20	35

Growth stage	 
	Flowering / Pod developmant
Stage duration (days)	30 / 30