

Greenhouse soilless Tomatoes in Mexico



Tomate - Invernadero en Sustrato - Proporcional Mexico

Crop cycle: 210 Days
Yield goal: 300.00 ton/ha
Plot: Mexico soilless
Plot size: 1 ha

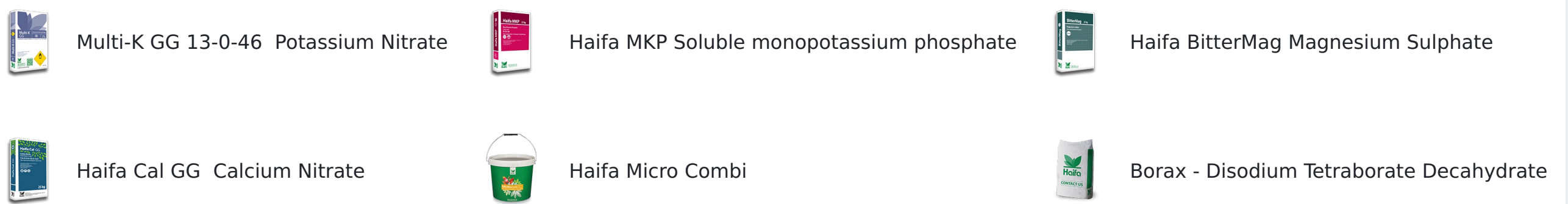
Establecimiento

Nutrient supply for crop

Stage	Days	Macronutrients (ppm)						Secondary Nutrients (ppm)			Micronutrients (ppm)						
		N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC (ds/m)
Establecimiento	30	150.00	7.58	142.41	0.00	118.39	225.00	182.72	36.00	95.85	1.20	0.60	0.20	0.15	0.10	0.20	1.36

Fertilizers per stage

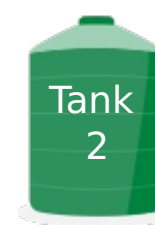
Fertilizers application



Nutrigation system



Volume: **1000 liter**
 Content: **Phosphorus**
 Injection rate: **3.87 l/m3**
 Fertilizer concentration: **20 %**



Volume: **1000 liter**
 Content: **Calcium**
 Injection rate: **3.53 l/m3**
 Fertilizer concentration: **20 %**

Multi-K GG 13-0-46 Potassium Nitrate **82.56 kg**

Haifa MKP Soluble monopotassium phosphate **58.84 kg**

Haifa BitterMag Magnesium Sulphate **58.15 kg**

Borax - Disodium Tetraborate Decahydrate **455 gram**

Haifa Cal GG Calcium Nitrate **195.28 kg**

Haifa Micro Combi **4.72 kg**

Stock solution nutrients content:

Tanks	Macronutrients (gram/liter)						Secondary Nutrients (gram/liter)			Micronutrients (mg/liter)						
	N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC
Phosphorus Tank 1	11.15	-	11.15	-	30.60	58.15	-	9.30	24.77	-	-	-	-	-	50	-
Calcium Tank 2	30.27	2.15	28.12	-	-	-	51.75	-	-	340	170	60	40	30	-	-

Vegetativo

Nutrient supply for crop

Stage	Days	Macronutrients (ppm)						Secondary Nutrients (ppm)			Micronutrients (ppm)						
		N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC (ds/m)
Vegetativo	60	200.00	9.70	190.30	0.00	127.35	300.00	233.66	48.00	127.80	1.98	0.99	0.33	0.25	0.17	0.20	1.78

Fertilizers per stage

Fertilizers application

	Multi-K GG 13-0-46 Potassium Nitrate		Haifa MKP Soluble monopotassium phosphate		Haifa BitterMag Magnesium Sulphate
	Haifa Cal GG Calcium Nitrate		Haifa Micro Combi		Borax - Disodium Tetraborate Decahydrate

Nutrigation system



Volume: **1000 liter**
 Content: **Phosphorus**
 Injection rate: **5.08 l/m3**
 Fertilizer concentration: **20 %**



Volume: **1000 liter**
 Content: **Calcium**
 Injection rate: **4.55 l/m3**
 Fertilizer concentration: **20 %**

Multi-K GG 13-0-46 Potassium Nitrate	92.37 kg
Haifa MKP Soluble monopotassium phosphate	48.22 kg
Haifa BitterMag Magnesium Sulphate	59.07 kg
Borax - Disodium Tetraborate Decahydrate	347 gram

Haifa Cal GG Calcium Nitrate	193.95 kg
Haifa Micro Combi	6.05 kg

Stock solution nutrients content:

Tanks	Macronutrients (gram/liter)						Secondary Nutrients (gram/liter)			Micronutrients (mg/liter)						
	N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC
Phosphorus Tank 1	12.47	-	12.47	-	25.07	59.07	-	9.45	25.16	-	-	-	-	-	40	-
Calcium Tank 2	30.06	2.13	27.93	-	-	-	51.40	-	-	440	220	70	50	40	-	-

Producción

Nutrient supply for crop

Stage	Days	Macronutrients (ppm)						Secondary Nutrients (ppm)			Micronutrients (ppm)						
		N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC (ds/m)
Producción	120	250.00	11.81	238.19	0.00	136.31	375.00	284.60	60.00	159.75	2.40	1.20	0.40	0.30	0.20	0.45	2.19

Fertilizers per stage

Fertilizers application

	Multi-K GG 13-0-46 Potassium Nitrate		Haifa MKP Soluble monopotassium phosphate		Haifa BitterMag Magnesium Sulphate
	Haifa Cal GG Calcium Nitrate		Haifa Micro Combi		Borax - Disodium Tetraborate Decahydrate

Nutrigation system



Volume: **1000 liter**
 Content: **Phosphorus**
 Injection rate: **6.30 l/m3**
 Fertilizer concentration: **20 %**



Volume: **1000 liter**
 Content: **Calcium**
 Injection rate: **5.54 l/m3**
 Fertilizer concentration: **20 %**

Multi-K GG 13-0-46 Potassium Nitrate	98.23 kg
Haifa MKP Soluble monopotassium phosphate	41.61 kg
Haifa BitterMag Magnesium Sulphate	59.53 kg
Borax - Disodium Tetraborate Decahydrate	629 gram

Haifa Cal GG Calcium Nitrate	193.98 kg
Haifa Micro Combi	6.02 kg

Stock solution nutrients content:

Tanks	Macronutrients (gram/liter)						Secondary Nutrients (gram/liter)			Micronutrients (mg/liter)						
	N_Total	N_NH4	N_NO3	N_NH2	P2O5	K2O	CaO	MgO	SO4	Fe	Mn	Zn	Cu	Mo	B	EC
Phosphorus Tank 1	13.26	-	13.26	-	21.64	59.53	-	9.52	25.36	-	-	-	-	-	70	-
Calcium Tank 2	30.07	2.13	27.93	-	-	-	51.40	-	-	430	220	70	50	40	-	-

Environmental Footprint

Environmental parameters	Haifa-fertigation	Topsoil application	Fertigation rating performance
Env. Footprint single score $\mu\text{Pt/Kg produce}$	3.40e+4	2.04e+4	WORSE
Carbon footprint kg CO2 eq./Kg produce	9.00e-2	1.21e-1	BETTER
N leaching kg NO3/Kg produce	8.14e-5	4.09e-4	EXCELLENT
N runoff kg NO3/Kg produce	7.88e-6	4.92e-5	EXCELLENT
N volatilization kg NH3/Kg produce	5.65e-5	7.76e-4	EXCELLENT
Eutrophication, freshwater kg P eq./Kg produce	4.22e-5	6.75e-5	EXCELLENT

*INDEX (Fertigation vs Topsoil)

EXCELLENT	BETTER	EQUAL	BAD	WORSE
>30%	10 to 30%	10 to -10%	-10 to -30%	<-30%

* % Difference between fertigation and topsoil application

NutriNet calculates the difference between the environmental footprint of fertigation programs compared to top-soil fertilizer application. In both cases NutriNet uses the same field characteristics, however, fertilizer composition is different and thus the overall values of the environmental footprint are different.