

Lettuce proportional



Iceberg lettuce indoor Proportional

Crop cycle: 77 Days

Yield goal: 40.00 ton/ha

Plot: 1 hectare israel

Plot size: 1 ha

Sowing to transplant

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)
Sowing to transplant	25	59.93	6.00	53.93	0.00	60.00	60.00	60.00	39.60	58.87	1.15	0.58	0.19	0.14	0.10	0.24	0.58

Fertilizers per stage

Fertilizers application



Multi-K GG 13-0-46 Potassium Nitrate



Haifa MKP Soluble monopotassium phosphate



Haifa MAP - Mono Ammonium Phosphate



Haifa Mag / Magnisal Magnesium Nitrate



Haifa BitterMag Magnesium Sulphate



Haifa Cal GG Calcium Nitrate



Borax - Disodium Tetraborate Decahydrate



Haifa Micro Combi

Nutrigation system



Volume: **1000 m3**
Content: **Phosphorus**
Injection rate:



Volume: **1000 m3**
Content: **Calcium**
Injection rate:

Multi-K GG 13-0-46 Potassium Nitrate 3.51 kg

Haifa MKP Soluble monopotassium phosphate 8.11 kg

Haifa MAP - Mono Ammonium Phosphate 2.92 kg

Haifa BitterMag Magnesium Sulphate 13.82 kg

Borax - Disodium Tetraborate Decahydrate 0.21 kg

Multi-K GG 13-0-46 Potassium Nitrate 3.51 kg

Haifa Mag / Magnisal Magnesium Nitrate 11.28 kg

Haifa Cal GG Calcium Nitrate 22.64 kg

Haifa Micro Combi 1.60 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	0.82	0.35	0.47	-	6.00	4.38	-	2.21	5.89	-	-	-	-	-	20	-
Calcium Tank 2	5.17	0.25	4.92	-	-	1.62	6.00	1.75	-	120	60	20	10	10	-	-

First 7 days

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)
First 7 days	7	96.00	19.20	76.80	0.00	84.00	144.00	117.53	39.60	204.19	1.15	0.58	0.19	0.14	0.10	0.24	1.06

Fertilizers per stage

Fertilizers application

Multi-K GG 13-0-46 Potassium Nitrate

Haifa SOP Potassium Sulphate

Haifa MKP Soluble monopotassium phosphate

Haifa MAP - Mono Ammonium Phosphate

Haifa BitterMag Magnesium Sulphate

Haifa Cal GG Calcium Nitrate

Borax - Disodium Tetraborate Decahydrate

Haifa Micro Combi

Nutrigation system

Tank 1

Volume: **1000 m3**
Content: **Phosphorus**
Injection rate:

Tank 2

Volume: **1000 m3**
Content: **Calcium**
Injection rate:

Multi-K GG 13-0-46 Potassium Nitrate4.79 kg

Haifa SOP Potassium Sulphate18.12 kg

Haifa MKP Soluble monopotassium phosphate2.15 kg

Haifa MAP - Mono Ammonium Phosphate11.93 kg

Haifa BitterMag Magnesium Sulphate24.75 kg

Borax - Disodium Tetraborate Decahydrate0.21 kg

Multi-K GG 13-0-46 Potassium Nitrate4.79 kg

Haifa Cal GG Calcium Nitrate44.35 kg

Haifa Micro Combi1.60 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	2.08	1.43	0.65	-	8.40	12.19	-	3.96	20.42	-	-	-	-	-	20	-
Calcium Tank 2	7.52	0.49	7.03	-	-	2.21	11.75	-	-	120	60	20	10	10	-	-

Growing cycle

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)
Growing cycle	45	144.00	28.80	115.20	0.00	84.00	280.61	117.60	39.60	243.23	1.73	0.86	0.29	0.22	0.14	0.24	1.42

Fertilizers per stage

Fertilizers application



Multi-K GG 13-0-46 Potassium Nitrate



Haifa SOP Potassium Sulphate



Haifa MAP - Mono Ammonium Phosphate



Ammonium Sulphate



Haifa BitterMag Magnesium Sulphate



Haifa Cal GG Calcium Nitrate



Borax - Disodium Tetraborate Decahydrate



Haifa Micro Combi

Nutrigation system



Tank 1

Volume: **1000 m3**

Content: **Phosphorus**

Injection rate:



Tank 2

Volume: **1000 m3**

Content: **Calcium**

Injection rate:

Multi-K GG 13-0-46 Potassium Nitrate19.00 kg

Haifa SOP Potassium Sulphate20.60 kg

Haifa MAP - Mono Ammonium Phosphate13.77 kg

Ammonium Sulphate3.52 kg

Haifa BitterMag Magnesium Sulphate24.75 kg

Borax - Disodium Tetraborate Decahydrate0.21 kg

Multi-K GG 13-0-46 Potassium Nitrate19.00 kg

Haifa Cal GG Calcium Nitrate44.38 kg

Haifa Micro Combi2.40 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	4.96	2.39	2.56	-	8.40	19.28	-	3.96	24.32	-	-	-	-	-	20	-
Calcium Tank 2	9.44	0.49	8.96	-	-	8.78	11.76	-	-	170	90	30	20	10	-	-

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Environmental Footprint

Environmental parameters	Haifa-fertigation	Topsoil application	Fertigation rating performance
Env. Footprint single score $\mu\text{Pt/Kg}$ produce	2.57e+4	3.06e+4	BETTER
Carbon footprint $\text{kg CO}_2 \text{ eq./Kg}$ produce	1.05e-1	1.39e-1	BETTER
N leaching $\text{kg NO}_3/\text{Kg}$ produce	1.21e-4	6.12e-4	EXCELLENT
N runoff $\text{kg NO}_3/\text{Kg}$ produce	3.66e-6	2.29e-5	EXCELLENT
N volatilization $\text{kg NH}_3/\text{Kg}$ produce	7.88e-5	1.08e-3	EXCELLENT
Eutrophication, freshwater kg P eq./Kg produce	5.32e-5	1.17e-4	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.