Solinure®

Precision Nutrition with Solinure ICL Fertigation Fertilizers

ICL

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Precision Nutrition with Solinure

ICL Fertigation Fertilizers

Fertigation – mixing soluble fertilizers with irrigation water – makes precision nutrition possible. Nutrient composition, placement, timing, and rate of application can all be fine-tuned according to the soil fertility status and crop growth stage to optimize your crop's productivity.

Our Solinure collection of fertigation fertilizers gives you the perfect choice of fertigation partner.

Choose the right Solinure product for your crop.

Solinure® GT

Solinure® FX

Solinure® FX Plus

Solinure® Polymarine **New**

Fertigation

Solinure® GT

Ideal for greenhouse and tunnel applications, free of chloride and generally low in urea, Solinure GT products are available in different formulations, some with adequate magnesium for crop needs.

Key formula facts

- smart design with pure raw materials providing complete nutrition
- special formulation to suit cool and dark winter growing conditions
- low in urea and chloride-free
- trace elements 100% chelated for optimum uptake

+35%

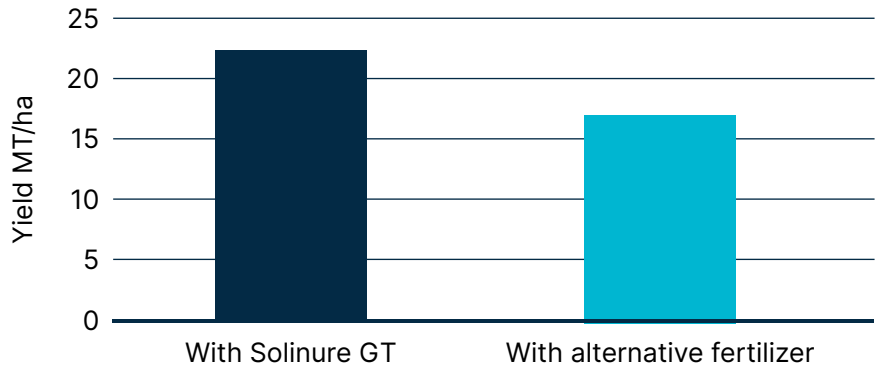
Trial case

Trial: Comparing Solinure GT with grower's alternative fertilizer

Crop: Strawberry in Mazowieckie, Poland

Result: Optimized nutrition using Solinure GT in fertigation increased strawberry yield by 35% or 6,000 kg/ha and increased grower income by €5,800/ha.

Strawberry yield



"Solinure GT dissolves properly. My trees showed a clear response: greener vegetation and better growth. I trust Solinure because it is a high-quality product, well packaged and is good value"

Jordi Vendrell (pictured left), seed and stone fruit grower, Frutas Torre Molins Huesca, Spain

Solinure® FX

The Solinure FX collection of innovative fertilizers are designed specifically for openfield fertigation. There are no trace elements in the formulation which means that as a grower you can customize your crop nutrition by adding the micronutrients needed, such as Micromax.

Key formula facts

- contains chloride and urea
- high purity
- contains PeKacid technology, acidifying for better nutrient availability in the root zone
- regular application neutralizes precipitate in irrigation drippers

PeKacid is a unique, mono-crystal, water soluble phosphoric acid in dry form. It is nitrogen-free and contains no sodium or chlorine.

PeKacid technology benefits to Solinure products:

- Reduces pH of hard water
- Prevents clogging in irrigation and fertigation systems
- Cleans blocked drippers by dissolving precipitates
- Ensures uniform water and fertilizer distribution across the field
- Decreases phosphorus fixation in the rhizosphere and promotes trace element uptake in alkaline soils
- Makes handling and mixing easy

+20%

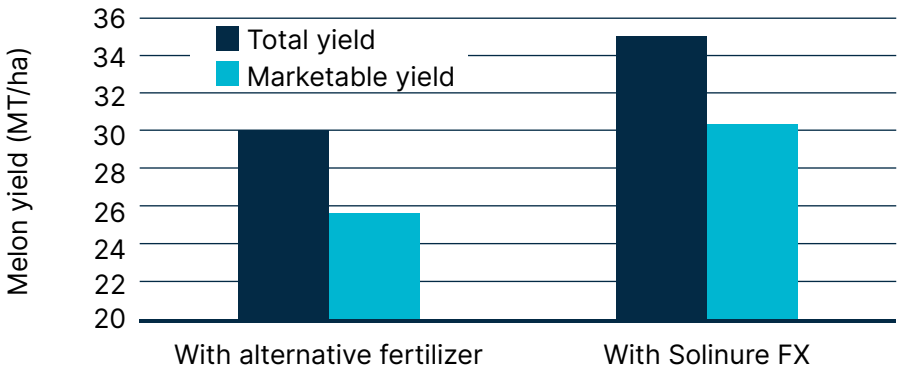
Trial case

Trial: Comparing Solinure FX with same levels of nutrients provided by alternative fertilizer

Crop: Melon (Gandalf variety) in France

Result: Optimized nutrition using Solinure FX in fertigation increased proportion of Category 1 fruit and enhanced marketable yield by 20% overall which lifted grower gross income by 8.25% and showed that water soluble fertilizer containing chloride has no negative effect.

Total and marketable yield of melons (MT/Ha)



"After fruit setting, I used Solinure FX 10-10-40 on my melons in tunnels comparing it with my usual NPK soluble fertilizer. Very easy to dissolve, Solinure FX made my yield and melon caliber better. It increased the Brix rate by 2 points."

Guillaume Sarl, melon, lettuce, and strawberry grower, St Martin de Crau, France

Solinure® FX Plus

Solinure FX Plus is designed for open field use. This product has chloride level of 2-3% and is available in three NPK formulations for fruit growing and ripening (10-10-4+TE), rooting and flowering (15-30-25+TE), or for overall balanced crop nutrition (20-20-20+TE).

Key formula facts

- high quality NPK nutrients enriched with TE
- high solubility of our own mined pure raw materials
- value for money

Solinure® Polymarine

This next generation chloride-free fertigation fertilizer, which is the newest and unique addition to the Solinure family, incorporates Advanced-P technology and seaweed extract which stimulates crop growth and stress-tolerance, delivers immediate and long-lasting nutrition as well as high trace elements (TE).

Key formula facts

- high quality NPK nutrients enriched with TE
- immediate and prolonged soil P and TE availability through Advanced-P technology
- boosted by seaweed growth enhancing properties

+13%

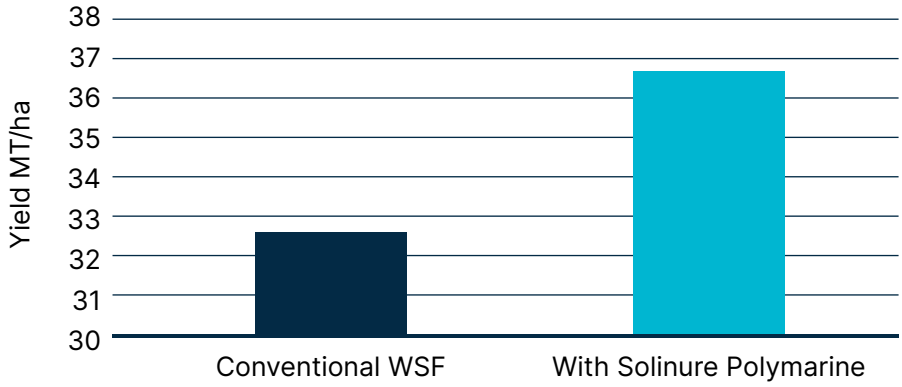
Trial case

Trial: Measuring agronomic response to Solinure Polymarine (20-20-20+TE) compared to conventional water-soluble fertilizer (WSF+TE) without embedded biostimulants.

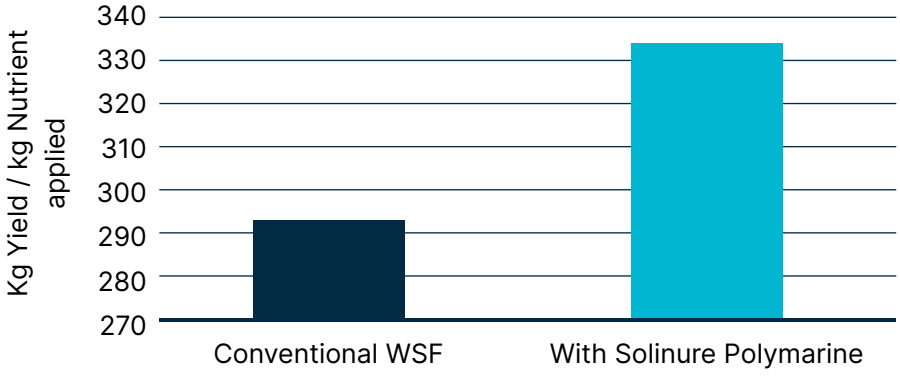
Crop: Iceberg lettuce in Cartagena, Spain

Result: Optimized nutrition using Solinure Polymarine in fertigation increased lettuce yield by 13%, achieved significantly higher weights at 3 of the 4 picking dates, kept drippers free of clogging and increased grower income by over €15,000/ha.

Lettuce yield



Nutrient Use Efficiency



Breakdown Tables (in %)

Solinure® GT

Product	Formulation	Product Name	Item code	N-total	NO_3-N	NH_4-N	Urea-N	P_2O_5	K_2O
Solinure GT	10-5-39+2MgO+TE	Solinure GT 1	2919	10	9.1	0.9		5	39
Solinure GT	7-19-38+2MgO+TE	Solinure GT 2	2922	7	7.0			19	38
Solinure GT	12-5-35+2MgO+TE	Solinure GT 3	2923	12	8.1	2.1	1.8	5	35
Solinure GT	14-6-23+2MgO+TE	Solinure GT 4	2918	14	6.1	7.9		6	23
Solinure GT	20-20-20+TE	Solinure GT 5	2911	20	5.9	3.8	10.3	20	20
Solinure GT	15-15-15+TE	Solinure GT 6	2916	15	3.4	11.6		15	15
Solinure GT	18-11-11+2MgO+TE	Solinure GT 7	2910	18	3.3	11.3	3.4	11	11
Solinure GT	23-10-10+5.6MgO+TE	Solinure GT 8	2921	23	1.0	1.2	20.8	10	10
Solinure GT	11-35-11+2MgO+TE	Solinure GT 9	2920	11	2.1	8.9		35	11

Solinure® FX

Solinure FX	10-10-40	Solinure FX	2948	10		1.3	8.7	10	40
Solinure FX	20-20-20	Solinure FX 10	2951	20		2	18	20	20
Solinure FX	18-8-29	Solinure FX 11	2950	18		0.7	17.3	8	29
Solinure FX	13-40-13	Solinure FX 12	2949	13		6.9	6.1	40	13
Solinure FX	16-32-16	Solinure FX 13	2944	16		4.3	11.7	32	16
Solinure FX	24-13-13	Solinure FX 14	2943	24		5.4	18.6	13	13
Solinure FX	17-8-27+3CaO	Solinure FX 15	2945	17	1.6		15.3	8	27
Solinure FX	16-8-25+4MgO	Solinure FX 16	2946	16			16.0	8	25
Solinure FX	15-5-30	Solinure FX 17	2958	15		4.9	10.1	5	30
Solinure FX	18-9-18	Solinure FX 18	2947	18		8.5	9.5	9	18

Solinure® FX Plus

Solinure FX Plus	10-10-40+TE	2969	10	7.7	1.2	1.1	10	40
Solinure FX Plus	15-30-15+TE	2970	15	3.7	8	3.7	30	15
Solinure FX Plus	20-20-20+TE	2971	20	2.1	2.4	15.5	20	20

Solinure® Polymarine

Solinure Polymarine	20-20-20+TE+SW	2976	20	4.9	3.4	11.7	20	20
Solinure Polymarine	10-6-37+TE+SW	2975	10	6	4		6	37

** EDTA chelated ** DTPA chelated *** Measured in soft water (comparable to rainwater)*

Key factors in planning a successful fertigation program

Soil
Use soil analysis to determine the nutrient level and know which elements to add or minimize. Measuring the pH of soil enables you to predict which nutrients will be available at high or low levels to plant roots and support your decision on which product to use.

Water
Use water analysis to determine levels of common nutrients such as Ca, Mg, and Cl. If the pH level is high, it will be necessary to choose fertilizers which have an acidifying effect.

Crop needs
Knowing the nutrient needs of the crop throughout the growing cycle allows you to create an accurate fertilization plan for optimum growth and yield.

CaO	MgO	SO_3	Cl	B	Cu	Fe	Mn	Mo	Zn	HCO_3 reduction mg/g WSF***	EC at 1 g/l (mS/cm)	pH at 10 g/l	Max. solubility (kg/100 l)
	2	11.2		0.01*	0.01*	0.04*	0.001	0.002*	0.002	1.4	1.4	4.4	40
	2	4.1		0.01*	0.01*	0.04*	0.001	0.002*	0.002	1.1	1.1	4.7	43
	2	14.5		0.01*	0.002*	0.04*	0.01	0.002*	0.002	1.4	1.35	4.5	41
	2	25		0.01*	0.01*	0.04*	0.001	0.002*	0.002	1.4	1.5	5	44
				0.01*	0.01*	0.04*	0.001	0.002*	0.002	0.9	0.9	4.4	52
				0.01*	0.002*	0.04*	0.01	0.002*	0.002	1.5	1.48	4.5	50
	2	30.2		0.01*	0.01*	0.04*	0.001	0.002*	0.002	1.5	1.5	5	43
	5.6			0.01*	0.01*	0.04*	0.001	0.002*	0.002	0.7	3.1	56	
	2	14.4		0.01*	0.01*	0.04*	0.001	0.002*	0.002	1.2	1.2	4	54
			30							12.71	1.37	3.16	39
			11.7							15.8	0.84	3.25	44
		4.6	17.3							15.25	1.05	2.9	39
			9							15.3	0.99	3.52	44
			9.5							41.18	0.99	3.1	50
		9.8	9.3							11.18	0.91	3.4	52
3.0			18							34.3	1.21	2.7	62
	4.0	8.5	16							11.18	1.1	3.0	40
		12.9	21							15.25	1.44	3.07	30
		21.5	12.8							13.7	1.14	3.2	40
		6.5	2.2		0.0025	0.04	0.02	0.0025	0.01	0	1.14	4.5	60
		5.4	2.3		0.0025	0.04	0.02	0.0025	0.01	0	1.08	3.38	43
		4.3	2.3		0.0025	0.04	0.02	0.0025	0.01	0	0.81	3.6	53
		0.02		0.015	0.05*	0.05*	0.05*	0.007*	0.05*	0	0.9	5.8	> 10
		21.5		0.015	0.05*	0.05*	0.05*	0.007*	0.05*	16	1.4	5.8	> 10

Overview is subject to formulation changes and misprints.

Good fertigation principles

- Anticipate crop's nutrient requirements over time
- Estimate nutrients acquired from soil, water, and organic fertilizer
- Know the amount of water needed by the crop each day
- Create the right nutrient formula for each growth stage
- Calculate the total amount of water-soluble fertilizer the crop needs for every stage (kg/ha/day)

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