

SANICROP+ Disinfestation and sanitisation of agricultural commodities

Perform an organic process, retain the natural properties

STALAM developed and patented SANICROP+, an innovative chemical-free solution for the organic disinfestation and sanitisation of dry agricultural commodities, based on the Radio Frequency technology. Thanks to the mild heat treatment performed by the RF electromagnetic field, all physical, chemical, nutritional and sensorial characteristics of the substrate are preserved at their best.



How it works?

In the SANICROP+ sanitisation system, the product is fed by means of an in-built volumetric hopper feeder, that guarantees the load consistency and the desired thickness; it is then conveyed through the treatment tunnel by a food-grade conveyor belt. In the treatment tunnel the product is submitted to the electromagnetic field.

The Radio Frequency energy supply is adjusted to ensure a perfectly controlled process on a wide range of medium to low moisture content products. The PLC ensures a reliable, repeatable and safe process control and allows to manage easily the operating parameters to achieve the desired process targets.



In a few minutes the product leaves the treatment tunnel and is gently transferred to the conveyor system which will take it to the subsequent processing steps or storage.



MODELS AVAILABLE					
RF power (kW)	RF generator cooling system	Dimensions LxWxH (m)	Throughput (Kg/h)*		
			ΔT40° C	ΔT60° C	ΔT80° C
7	air	5,5 x 1,2 x 2,8	200	140	100
15	air	6,5 x 1,8 x 3,2	450	300	230
40	air on water	8,0 x 2,0 x 3,4	1200	800	600
85	water	9,0 x 2,4 x 3,4	2600	1750	1300
105	water	9,5 x 2,4 x 3,6	3200	2150	1600

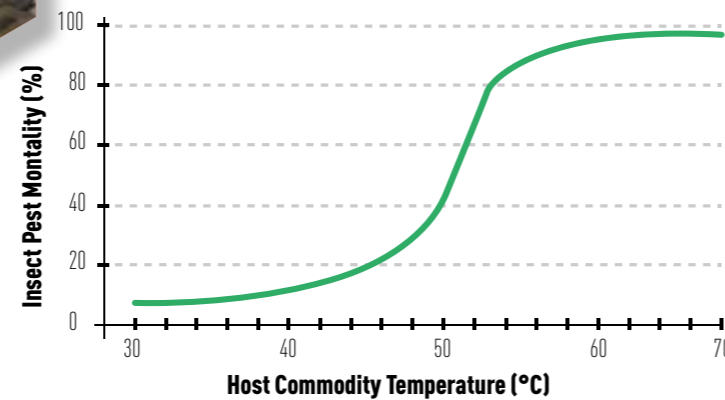
* Production capacities may vary depending on the product type.
Multiple modules can be combined to increase the production capacity even at a later stage.



Benefits

Fast and effective treatment

The process is 3 to 10 times faster compared to conventional heat treatments: 3÷5 minutes are sufficient to heat the substrate from room temperature up to 55÷65°C (for disinfestation) and 7÷10 minutes up to 80÷100°C (for sanitisation). One or two minutes temperature holding time is sufficient to ensure 100% mortality of even the most heat resistant pest species in all their development stages or to achieve 2 to 3 log reduction of the t.b.c. within the commodity.



Organic and chemicals-free process

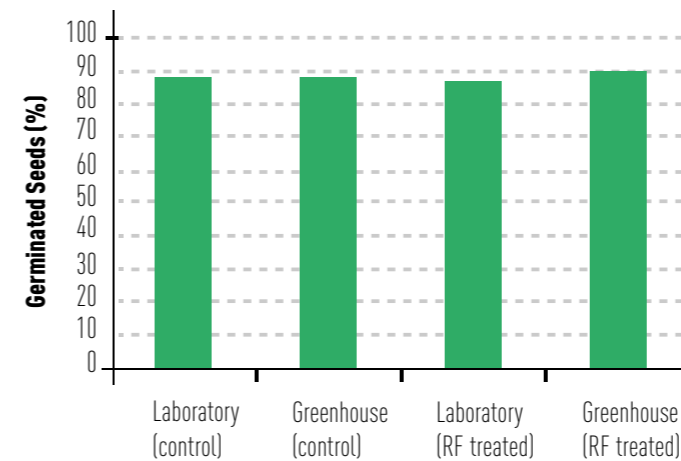
The physical, chemical, sensorial and nutritional properties are preserved at best thanks to the mild heat treatment, so that a healthy and safe product can be obtained without using fumigants, anoxic atmosphere or other chemical treatments.

Energy efficient and environmentally friendly technology

Approx. 25 kWh are required to disinfest about 1 ton of product (about the double for a thorough sanitisation process), which translates into a cost of 2÷4 EUR/ton, competitive with the conventional technologies.

No effect on the germination of seeds

The RF disinfestation does not affect the germination of seeds thanks to the relatively low treatment temperatures and the short process time.



Up to 10x faster than conventional treatments