GENODICS PBOX

Fewer crop losses, with no additional inputs.

A French technology that combines biology and sound to help your crops cope with disease and climate stress.



18 years	300	150	2,500 ha
of field use (since 2008)	field installations	growers supported	vineyards, vegetables, orchards

ACTING THROUGH SIGNALS

The genodic process translates the plant's defence and stress-resistance proteins into a sound sequence. Broadcast by the PBOX, this sequence stimulates their natural synthesis: the plant activates its own defences, **with no substance applied**.



PROTEIN
Proteins are the language of life.

INFORMATION
We decode biological signals and turn them into information.

SOUND SIGNAL
The information is converted into specific sound frequencies.

PBOX
Broadcasts beneficial frequencies across your crop.

VEGETABLE GROWING
Plants respond with greater balance, resilience and productivity.

CHEMICAL-FREE
No spraying, no exogenous molecules: compatible with organic farming.

FEWER INPUTS
Complements your current practices to reduce doses and number of passes (copper, sulphur, standard treatments).

AUTONOMOUS
Solar panel and battery, low maintenance, modules swappable in case of failure.

PROGRAMMABLE
Remote control (computer, smartphone) according to crop stage and weather.

VERSATILE
Tomato, cucumber, courgette, lettuce, chicory, strawberry, grapevine… one unit covers several hectares depending on terrain.

DISCREET
Short sequences (5–10 min) at low sound level (65–70 dB). Designed and made in France.

RESULTS MEASURED IN THE FIELD

Fungi, bacteria, viruses, pests: effects measured on working farms.

−60.1 %	−41 %	÷ 2	+16 %
Esca mortality (1.2 million vines)	plants affected by Botrytis (tomato)	second-grade chicory (Erwinia, 541 t)	strawberry yield (season)

VITICULTURE

Esca · downy mildew

−60.1 % — Esca mortality

Multicentre study · 2008–2018
91 plots, 260 ha, 13 vineyards, 1.2 M vines over 10 years, including independent monitoring by Cave de Buzet (−73 %).

50 % — copper

Château Palmer · Margaux, 2019
Proteodies + 50 % copper = downy mildew protection equivalent to 100 % copper alone.

STRAWBERRY FOCUS

EARL de la Baie · Plougastel (FR)



Anjou variety, glasshouse, conventional: house with broadcasting compared with a house without.

	Without	With	
1st flush	2.7 kg	3.4 kg	**+26 %**
Season	5.7 kg	6.6 kg	**+16 %**

- More vigorous plants: many trusses, broad leaves, stronger crowns.
- Less powdery mildew; no stunting despite aphids.
- Production extended to the end of the season, uniform fruit.

Results confirmed in 2025 and 2026

VEGETABLES

tomato · chicory · cucumber · courgette

26 % — vs 44 % control

Botrytis — tomato · Goulaine, 2011
Affected plants (lesions + mortality) at end of season; significant gap throughout monitoring.

÷ 2 — second grade

Erwinia — chicory · 2011–2012
211 forcing batches (541 t): second grade falls from about 6 % to 2.5–3 %.

+9–16 % — yield

Greenhouse cucumber
Longer, more regular production under compared conditions.

7 ha — > 10 years

WMV2/ZYMV mosaic — courgette
Provence: use extended to the whole farm, fruit marketed all year round.

OTHER ISSUES ALREADY ADDRESSED

FUNGI Scab · Bremia · Fusarium · Sclerotinia · Rhizoctonia · Didymella

BACTERIA Pseudomonas (PSA) · Burkholderia · Clavibacter · Ralstonia Acidovorax

VIRUSES Sharka (Plum pox) · Fanleaf · Pepino · TMV · TSWV · CMV · CGMMV

LABORATORY-VALIDATED

Effect of a proteody on dehydrin synthesis (water stress, frost), with the ERRMECe laboratory, CY Cergy Paris University — published in *Heliyon* (Elsevier), 2020.

RECOGNISED BY THE EPO

Specificity of proteody action recognised by the Technical Board of Appeal of the European Patent Office (2004).

PROTECTED

The sound sequences and the transposition code are protected by copyright in the 179 countries of the Berne Convention.

OUTLOOK

- **Reducing copper** in organic viticulture, by confirming the Château Palmer results.
- **Improved quality**: taste, sugar content, shelf life, compounds of interest (lycopene, resveratrol).
- **Saving on heating** in greenhouses: maintaining production at 1–2 °C lower.
- **New crops** and new pests and pathogens, under glass and in open field.
- **Better resistance** to drought, heatwaves and frost.
- **A wider network** of partner farms to extend monitoring to other regions.



WHY NOT ADD A NEW TOOL TO YOUR CROPS?

Observe. Experiment. Measure. Genodics will assess with you the feasibility of an installation on your farm: choice of proteodies, installation, training and follow-up.

LET'S TALK ABOUT YOUR CROPS!

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Trials and observations under real farm conditions, without systematic double-blinding. Esca multicentre study: manuscript submitted for publication. Château Palmer: a single season. Courgette: gradient of distance from the emitter, no control outside the zone of influence. Botrytis: not confirmed in a later trial (2014). Strawberry: comparison of two glasshouses on the same farm, grower records. Full methodology and data on request.