

Platform for the massive detection of new chemical products for the control of pathogens in plants.

DESCRIPTION

Biotechnological platform that allows, through the mass evaluation of compounds of synthetic and/or biological origin (with a current limit of up to 120 compounds; expandable), to discriminate whether one or more of these compounds lead to the death of a pathogen determined, stop the growth of the same pathogen, or if they only stop their global metabolic activity, all this at a quantitative and qualitative level.

The technology allows non-invasive high performance evaluations to be performed by quantifying active growth and the pharmacokinetic properties of various compounds in real time.

MARKET

The agrochemical industry is expected to continue to grow, given the high demand for food and the decrease in arable land.

In this scenario, the fungicide market is constantly looking for new molecules for the control of phytopathogenic fungi, which needs to be validated in vitro before being tested in the field, due to the high costs involved.

Thus, having a reliable, fast platform that requires few active ingredients is an excellent alternative to the options that exist today in the market, such as the development of evaluations in traditional crops, which could be at least five times more expensive.

APPLICATIONS

- Identification of phytopathogenic fungal controlling compounds of economic importance.
- Validation of effectiveness of existing compounds.

INTELLECTUAL PROPERTY

- Protected by industrial patent
 - Pontificia Universidad Católica de Chile - Biological Sciences Faculty
 - COPEC-UC Foundation



▲ Economically important phytopathogenic fungal controller compounds could be identified

ADVANTAGES

1. It allows the evaluation of control properties of different biological and synthetic compounds.
2. Use minimal amounts of compound.
3. It allows the evaluation of the effects of the compounds in different biological tissues.
4. In a minimum of time, results are obtained in a large number of compounds evaluated: 60 samples in 7 days.
5. Rigorous: statistical analysis based on three biological replicas and three technical replicas.

TREATMENTS	CONCENTRATION	% BUNCHES WITH GRAY ROT
1 Testigo	*****	31,8 A
2 <i>Serratia plymuthica</i>	10 ⁷ ufc/mL	8,3 B
3 <i>Serratia plymuthica</i>	10 ⁶ ufc/mL	12,8 B
4 Serenade ASO	4,0 L/ha	6,8 B

(*) Averages followed by the same letter are statistically equal to each other

▲ Percentage of bunches cv. Thompson Seedless with Gray Rot that received five applications of the bacterium *Serratia plymuthica* in the phenological stages of flower, cluster closure, pint and pre-harvest. Values correspond to the average of 4 repetitions with 100 bunches evaluated per treatment, at harvest time, February 2015. Buin. Región Metropolitana (Santiago - Chile). Season 2014-2015.

DEVELOPMENT

The technology is proven in its functionality with different types of both biological and chemical compounds. There are also comparisons between in vitro results and field tests that demonstrate the correlation between the results.

INVENTORES



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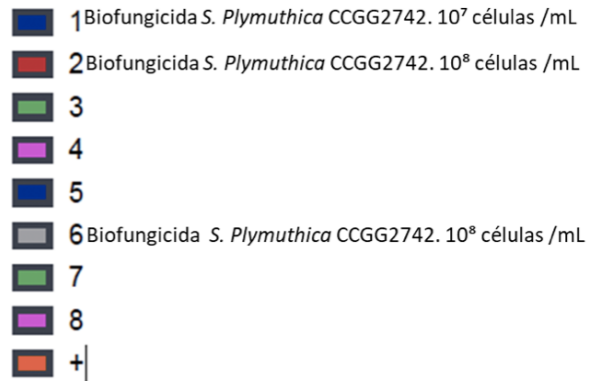
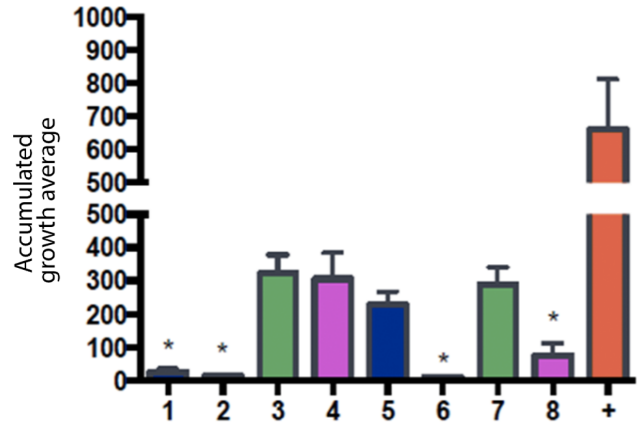
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▲ Accumulated average growth over time (5 days). The numbers indicate the corresponding sample. The symbol (+) indicates the growth for *B. cinerea* in the absence of controlling substances. According to this analysis, samples 1, 2, 6 and 8 show significant differences (lower final growth), compared to the positive control of growth (+).

FOR MORE INFORMATION



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