

Productos Químicos de Chihuahua (PROQUISA) SA de CV
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RESEARCH PROGRESS REPORT
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Translation from original Spanish document available in the Spanish section of the website.

PROJECT: Biocontrol agents.

EXPERIMENT: In vitro effect of the bioproduct BP01* vs Phytophthora cinnamomi.

METHODOLOGY:

To observe the in vitro effect of BP01, a streak of the bioproduct was made on one side of the culture medium and a portion of the pathogen was placed at a distance of 2 cm from the streak. Six different media were used for Trial 1.

1. Potato Dextrose Agar (PDA): Recommended for the growth of fungi
2. Czapeck Dox Agar (CZ): Recommended for the growth of fungi and bacteria
3. Agar V8 (V8): Recommended for the isolation of fungi of the genus Phytophthora
4. Nutritive Agar (AN): Non-selective culture medium
5. Nutritive Yeast Extract Dextrose Agar (NYDA): Non-selective medium
6. Muller Hinton Agar (MH): Medium for antibiotic susceptibility testing

The measurement of the mycelial growth of the pathogen towards the strike of the bioproduct and towards the opposite side were made in mm, in the same way the data were taken for the controls.

TREATMENTS:

1. PDABP01
2. CZBP01
3. V8BP01
4. ANBP01
5. NYDABP01
6. MHBP01
7. Witnesses

All treatments were incubated at 25°C

Each treatment had five replicates, measurements were made at 24, 48, 72 and 120 hours, this last measurement being where the maximum growth of the pathogen was observed in the controls.

* BP01 was patented in the United States under the patent number 6,589,524B1.
BP01 is produced and marketed by EcoMicrobials Inc. under the commercial name EcoBac.

For Trial 2, the effectiveness of BP01 against three pathogens (*Fusarium oxysporum*, *Phytophthora capsici*, and *Sclerotium cepivorum*) were evaluated using three different culture media:

1. Potato Dextrose Agar (PDA): Recommended for growth of fungi
2. Nutritive Agar (AN): Non-selective culture medium
3. Agar V8 (V8): Recommended for the isolation of fungi of the genus *Phytophthora*

RESULTS

Essay 1.

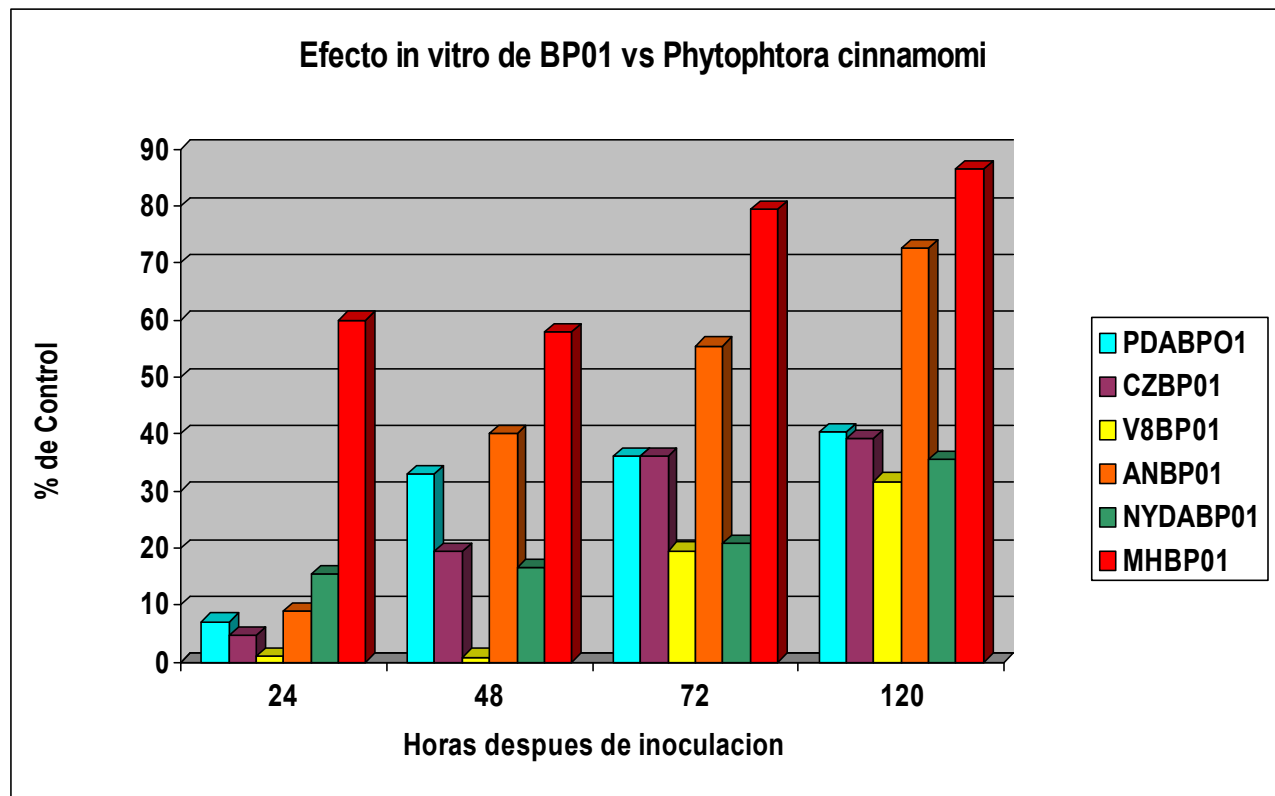


Table 1. In vitro percent biocontrol of *Phytophthora cinnamomi* by BP01

Treatment	24h	48h	72h	120h
PDABP01	7.08	33	36.03	40.37
CZBP01	4.70	19.3	36.09	39.26
V8BP01	0.93	10.8	19.48	31.71
ANBP01	8.8	40	55.45	72.63
NYDABP01	15.33	16.47	20.69	35.50
MHBP01	60	57.8	79.46	86.43

OBSERVATIONS

In the CZ, AN and MH culture media the pathogen did not reach the strike of the bioproduct, while with PDA, V8 and NYDA the pathogen reached the bioproduct.

Essay 2

In vitro biocontrol of BP01 against *F. oxysporum*, *P. capsici*, and *S. cepivorum* in specific agar culture media..

In vitro effect of BP01 (control percentage)

Treatment	PDA	Nutrient Agar	V8
BP01 vs <i>S. cepivorum</i>	30.86	100	-
BP01 vs <i>F. oxysporum</i>	12.5	26.42	-
BP01 vs <i>P. capsici</i>	-	77.52	26.42