

# BRINGING A BIOCONTROL PRODUCT OR INOCULANT TO MARKET

BIOCONTROLS: **6 TO 10 YEARS** / INOCULANTS: **4 TO 6 YEARS**

## WHY BIOTECHNOLOGY?

With biotechnology we can use helpful microorganisms to protect crops or make them grow better.



A **biological control** or (**biocontrol**) is a method of controlling pests such as insects, mites, weeds, and plant diseases using other organisms.

**Inoculants** are microbes, like bacteria or fungi, that can help crop plants use nutrients more efficiently

The cost must be considered at each step. The Cost of Goods (COG), from production, formulation, quality control and packaging – must be kept at levels that farmers can afford. The acceptable COG depends on the value of the crop and the performance value of the product.



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## RESEARCH:

Biocontrols 2-4 years  
inoculants 1-3 years



**IDENTIFY A CANDIDATE ORGANISM** THAT SHOWS PROMISE IN THE GREENHOUSE AND FIELD.

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## CONFIRM IDENTIFICATION AND MODE OF ACTION OF THE ORGANISM

- IS THERE A PATENT FOR THE USE OF THE ORGANISM AS A BIOCONTROL OR INOCULANT?
- IS THE ORGANISM A HUMAN, ANIMAL OR PLANT PATHOGEN?



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## REGULATORY

Biocontrols 2-5 years  
Inoculants 1-2 years)

### DETERMINE REGULATORY REQUIREMENTS

- **CANADA** - BIOCONTROL (PEST MANAGEMENT REGULATORY AGENCY)  
- INOCULANT (CFIA)
- **USA** - BIOCONTROL (US EPA)  
- INOCULANT (US EPA OR STATE REGULATORY AGENCIES)
- SAFETY AND TOXICOLOGY
- EFFICACY



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## DETERMINE PRODUCTION METHOD

- **DEVELOP A FORMULATION** - STABLE AT ROOM TEMPERATURE  
SHELF LIFE OF AT LEAST ONE YEAR
- **CHECK THE APPLICATION RATE USED IN THE TRIALS**  
- IS IT COST EFFECTIVE?  
- IS IT PRACTICAL?

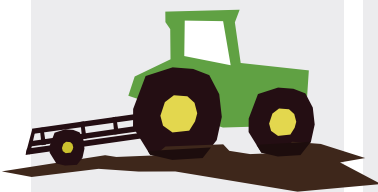


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## FIELD TRIALS

Biocontrols 2-4 years  
Inoculants 2-3 years

- PLOT TRIALS IN AREAS WHERE PRODUCT WILL BE SOLD



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## MARKET STRATEGY

INITIATE PARTNER/ DISTRIBUTOR DISCUSSIONS TO DETERMINE GO-TO-MARKET STRATEGY



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## DEVELOP A QUALITY ASSURANCE SYSTEM

- ✓ ENSURE STOCK CULTURES ARE PRESERVED
- ✓ PRODUCT EFFICACY IS MAINTAINED
- ✓ DETERMINE RATIO OF ACTIVE INGREDIENT FOR EFFICACY
- ✓ DETERMINE CONTAMINATION TESTING



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## DEVELOP A PRODUCT LABEL

- **USE INSTRUCTIONS** (APPLICATION RATES, WATER RATES, WHEN TO APPLY, LIMITATIONS ETC.)
- **COMPATIBILITY DETAILS**
- **SHELF LIFE / EXPIRATION / STORAGE INSTRUCTIONS**

