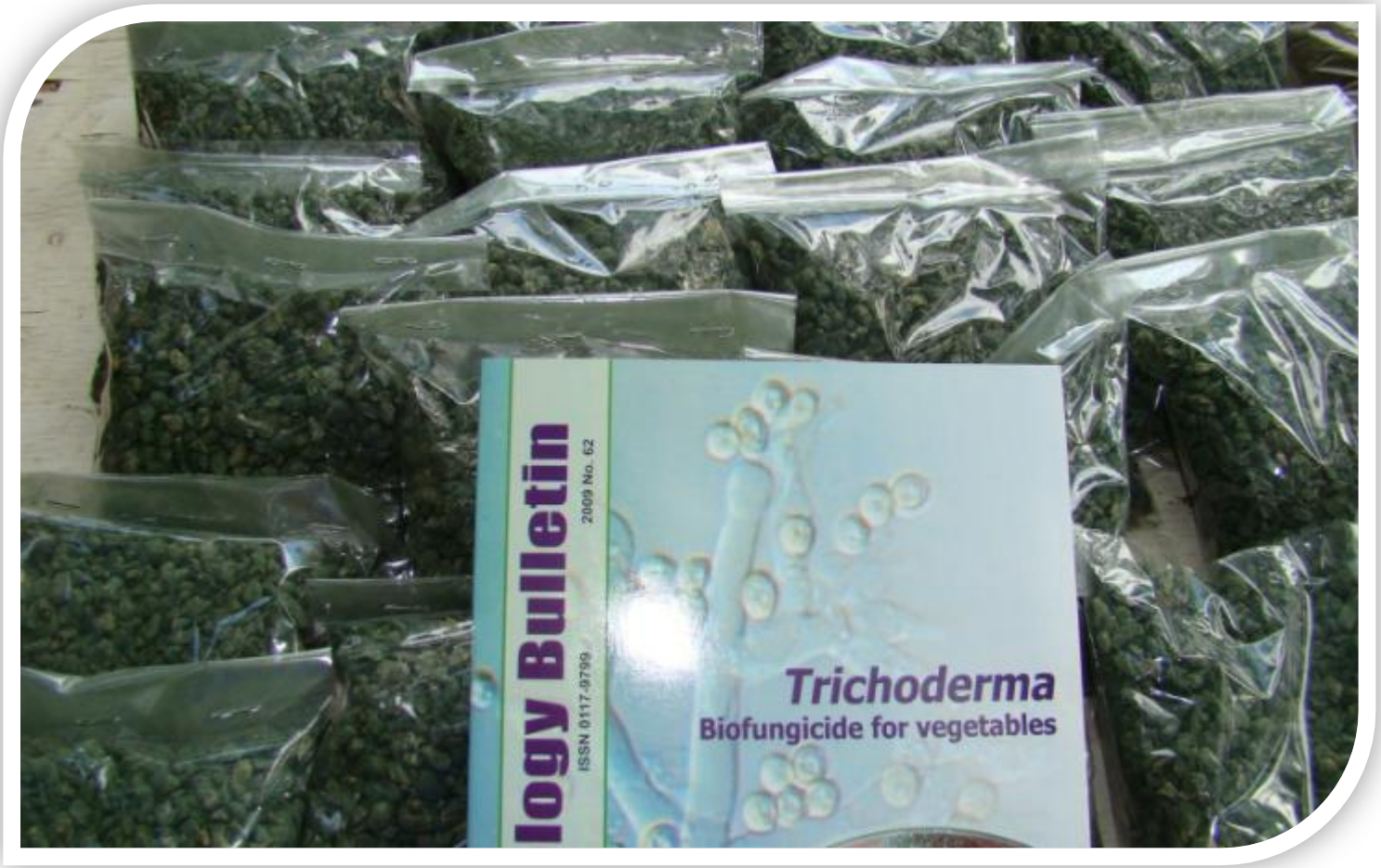
TRICHODERMA SP.

IPM CRSP Isolate Status of Research and Development in the Philippines



Trichoderma sp. (CRSP isolate) product

- ***Trichoderma* sp.** is a beneficial fungus used as a biological control agent (BCA) for vegetable diseases
- Used as biological fungicide
- Provides resistance and tolerance against fungal diseases
- Economical & Environment friendly

EXAMPLE OF DISEASES THAT CAN BE MANAGED BY *TRICHODERMA* SP.

Anthracnose/Twister

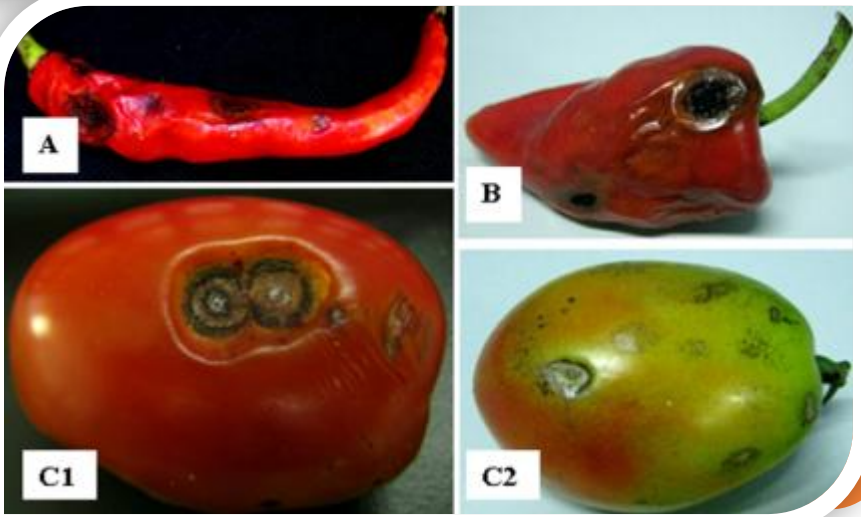
Damping -off

EXAMPLE – *CONT'N*

Symptoms of anthracnose on onion bulb and leaves.
Spots/lesions on the bulb (left) and leaves (right)

Symptoms and signs of anthracnose disease-

- black powdery spot on hot chili (A) and on sweet pepper B;
- concentric eye spots on tomato var diamante (C1, C2)



EXAMPLE (CONT'N)

Anthracnose on tomato

Purple blotch on garlic

No *Trichoderma* sp. application

Sprayed with *Trichoderma* sp.

Garlic fields in Vintar Ilocos Norte, Phil. showing severe incidence of anthracnose In the field with no *Trichoderma* sp.

Economic impact assessment

Gross sales – onion

With *Trichoderma* = P217,020.00 ($5,106.35)
No *Tridchoderma* = P171,284.36 ($4,030.22)
Difference = P54,283.12 ($1,277.32)

Production cost

With *Trichoderma* = P133,557.83 ($3,142.54)
Cost of fungicide = 0
No *Tridchoderma* = P142,105.30 ($3,343.65)
Cost of fungicide = P1,243.26

Difference on cost = P8,547.47($201.12)

Net Income

With *Trichoderma* = P83,462.17 ($1,963.82)

No *Tridchoderma* = P29,179.05 ($ 686.57)

Difference = P54,283.12 ($1,277.25)

Impact assessment

Trichoderma sp. adopters claimed that:

- disease problem were solved by the technology
  - resulted in good harvest
- improved soil condition of their farms
- very much satisfied of the level of performance
- very willing to use continuously
- eager to recommend to other farmers
- willing to help disseminate the information to other farmers

❖ *Trichoderma* is a very effective tool as fungicide.

Non-adopters said they are willing to use the technology even if they will buy the product.

Others said they are very much interested to know more of the technology (those who have not attended trainings).

Economic impact- VAM & *Trichoderma* sp.

- Use of VAM and *Trichoderma* resulted in :
  - 23% increase in yield
  - 43% reduction on fungicide costs
  - 19-50% reduction of fertilizer cost of farmer adopters over the non-adopters
- Net income
  - Adopter/user – P76,029.37
  - non-adopters/non-user – P29,179.05
  - Increase in net income – 160.56%

Status of the *Trichoderma* sp. Technology:

Implemented in the field already

Awareness of farmers of the *Trichoderma* technology increased

Village level production continuing

Efficacy demonstration trials continuing

Techniques of application being improved

Development Plans

Commercial production – individual farmers
or group of farmers
- NGO assisted farmers' cooperatives

PhilRice to put up a BCA laboratory for maintenance of pure culture and also for commercial production

PRODUCTION OF *TRICHODERMA* SP.

Materials Needed

Cracked corn
Plastic bag (polypropelene bag (5x8”. 0.3 thick)
Rubber band
Water
Big cooking pot
Steamer/autoclave
Pail or basin
Stove
Screen
Clean manila paper/newspaper
Mask and gloves
Trichoderma sp. pure culture (ipm crsp isolate)

Procedure:

1. Washing the cracked corn

2. Cooking the cracked corn (20-30 min

3. Washing the boiled cracked corn to cool

4. Draining

5. Bagging

6. Sterilization

7. Cooling

8. Inoculation

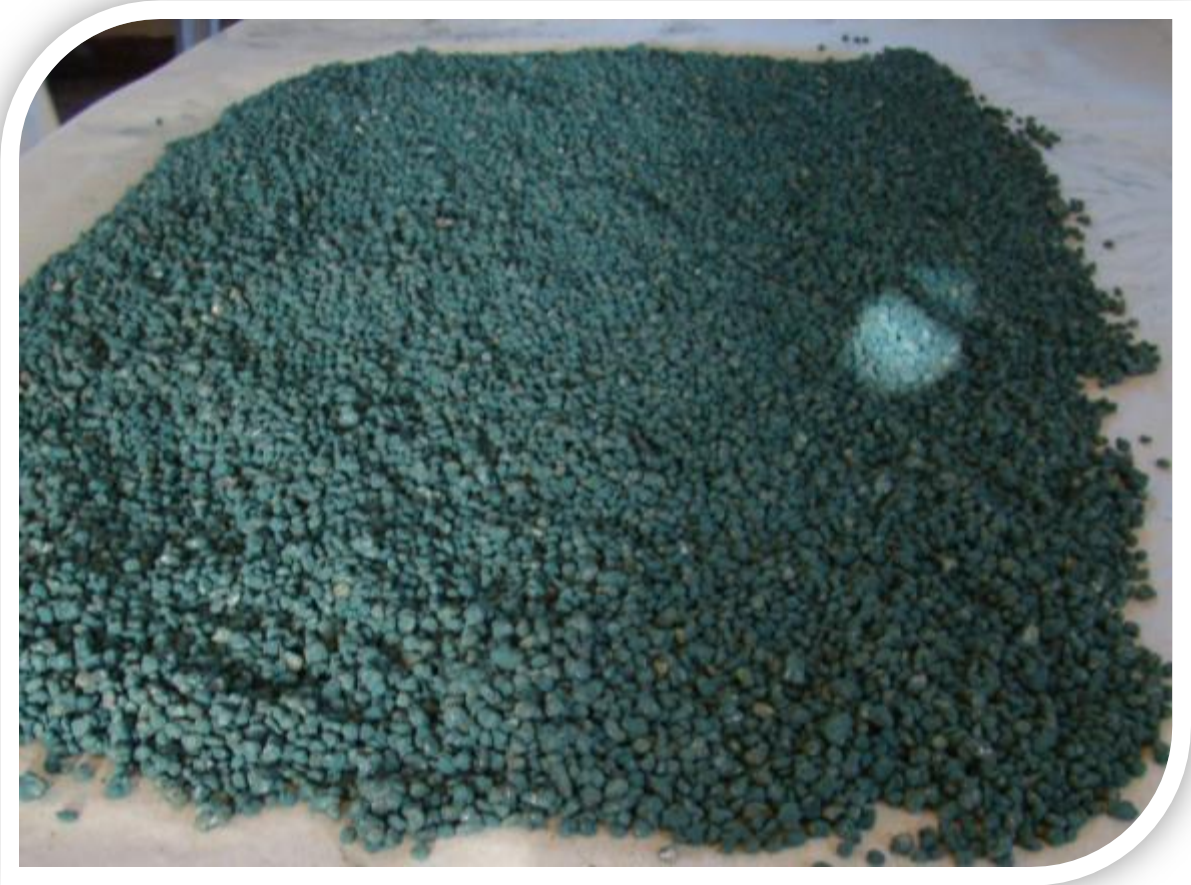
9. Incubation (3 days after inoculation)

10. Incubation (7-10 days after inoculation)

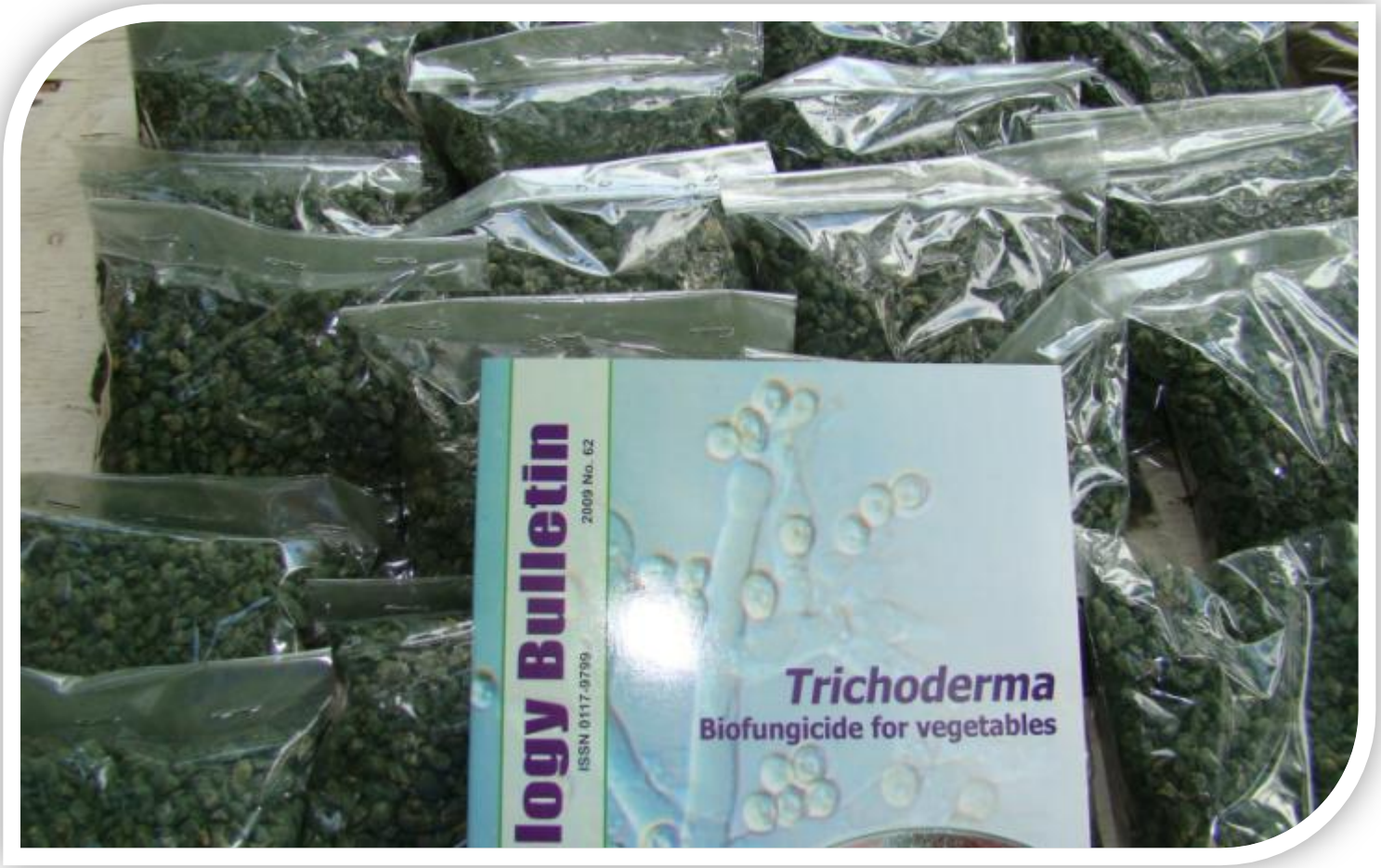
11. Air drying

Air drying

Air drying



Finished product



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Thank you