

An Effective and Efficient Granular Neem Based Bio-pesticide for Pest Management



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murugappa



**Established
in 1900**

**29
Businesses**

**Man power
32000**

**Group
turnover
US\$ 4 Bn
(2013-14)**



➤ Established in 1788

➤ Established first Sugar plant in India - 1842

➤ Established first Distillery in India - 1848

➤ Pioneer in Fertilizers from 1906

➤ World's largest manufacturer of Azadirachtin



Product Range from Parry's Bio





Patent on AVANA

Patent on Granular formulation of Neem Seed Extract and its Process


 US 20060099233A1

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2006/0099233 A1**
Rao et al. (43) **Pub. Date: May 11, 2006**

(54) **GRANULAR FORMULATION OF NEEM SEED EXTRACT AND ITS PROCESS THEREOF** (30) **Foreign Application Priority Data**
 Mar. 31, 2004 (IN)..... 293/CHE/2003

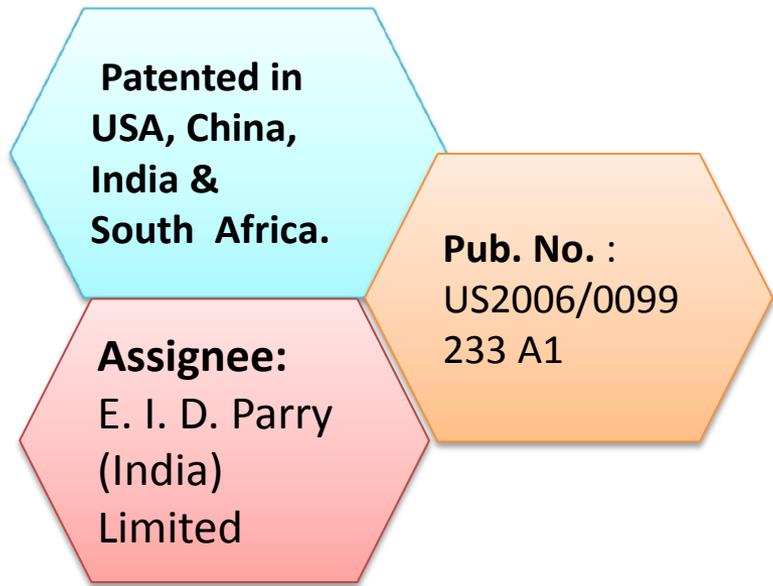
(75) **Inventors: Damarla Sreenivasa Rao, Bangalore (IN); Davendra Kumar, Bangalore (IN); Liza Joz, Bangalore (IN); Mambully Chandrasekaran Gopinathan, Bangalore (IN)** (51) **Int. Cl.**
A01N 65/00 (2006.01)
A01N 25/00 (2006.01)
 (52) **U.S. Cl.** 424/405; 424/761

(57) **ABSTRACT**
 The present invention relates to an improved granular formulation of neem seed extract containing azadirachtin having enhanced storage stability, and the ability for gradual release of azadirachtin for application to plant rhizosphere. The formulation contains inert particulate as a carrier, at least one lipophilic substance as a deactivator/binder, optional colorant and neem seed extract containing azadirachtin. The formulation provides the gradual release of azadirachtin and effectively at the point of application. The invention also relates to a process for the preparation of the formulation by coating the carrier with a lipophilic substance, subsequently impregnating the coated carrier with neem seed extract followed by optional coating with a colorant and finally lipophilic a substance, such as by spraying and drying at a temperature below 50° C.

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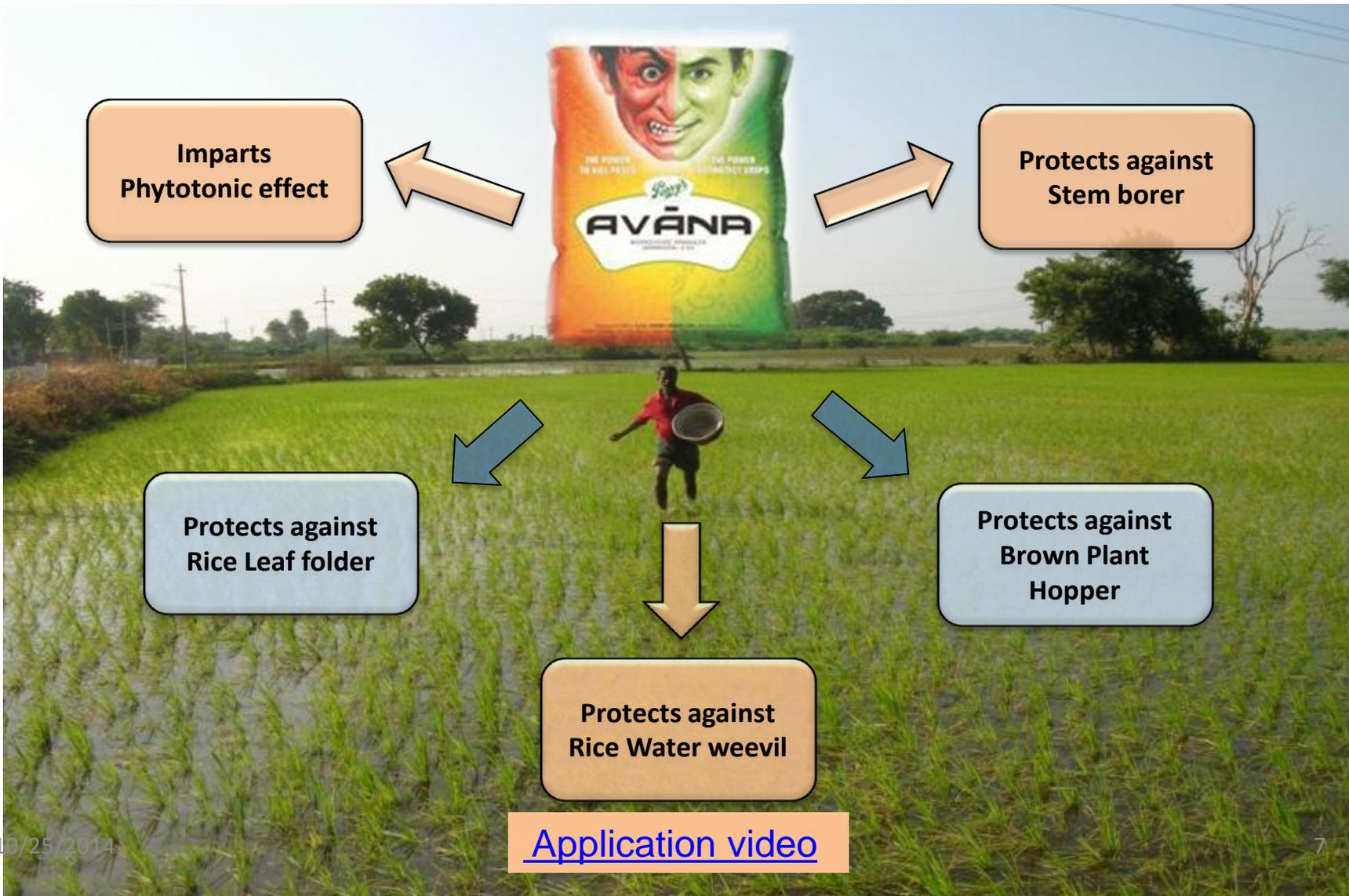
(73) **Assignee: E.I.D. Parry (India) Limited**
 (21) **Appl. No.: 11/298,273**
 (22) **Filed: Dec. 9, 2005**

Related U.S. Application Data
 (63) **Continuation-in-part of application No. PCT/IN05/00001, filed on Jan. 3, 2005.**



AVANA in Paddy

For Protection and Production



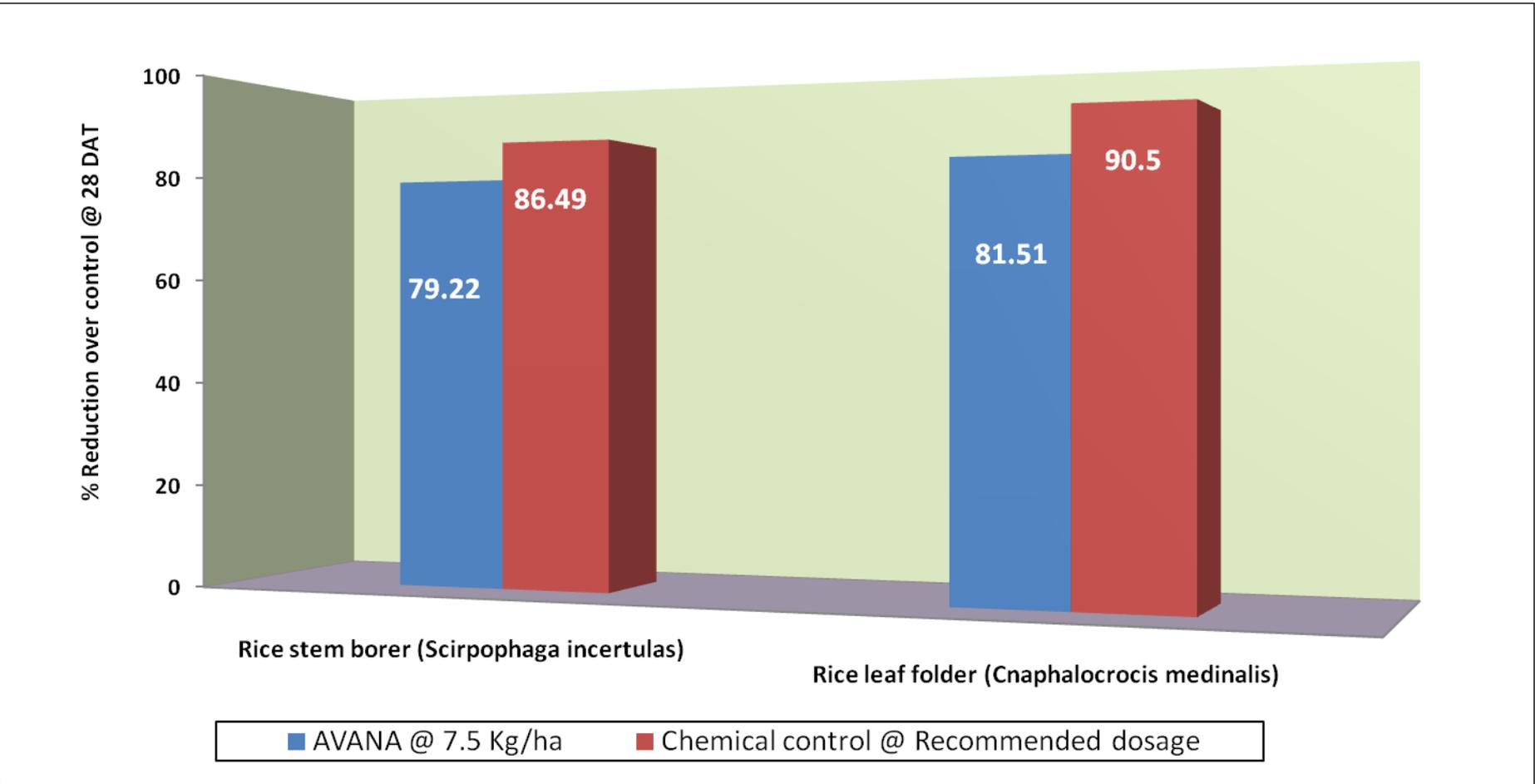




AVANA for Crop protection in Paddy



Bio-efficacy Trial against Rice Stem Borer and Rice Leaf folder

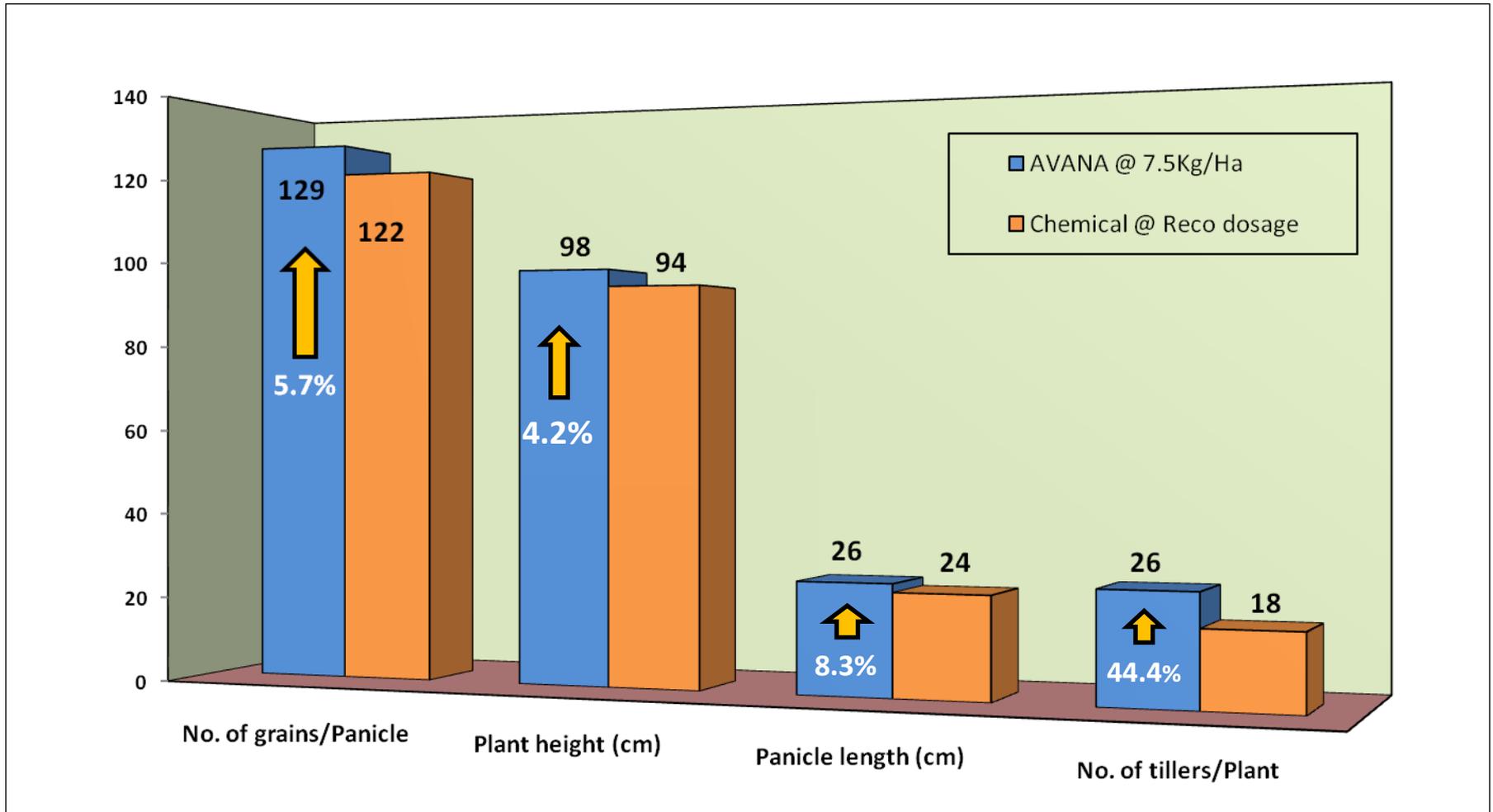


Result Highlights

- AVANA showed effective control of Rice stem borer and Rice leaf folder

AVANA for Crop Production in Paddy

Phytotonic effects- Crop Booster

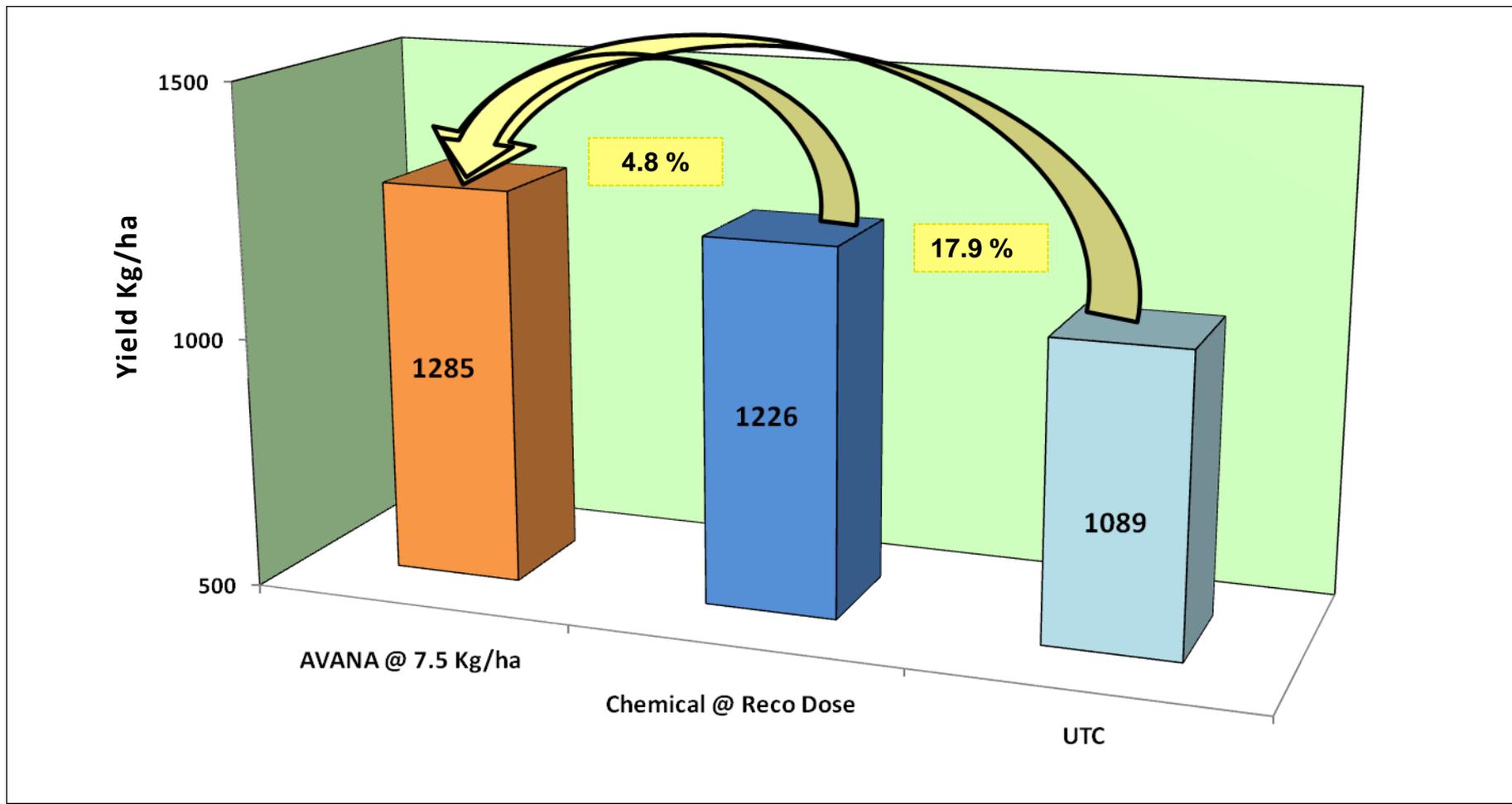


Trial Location: West Bengal, INDIA

Trial Highlights: AVANA boosted the growth of plants when compared to the chemical competitor

AVANA for Crop Production in Paddy

Phytotonic effects- Yield Enhancer

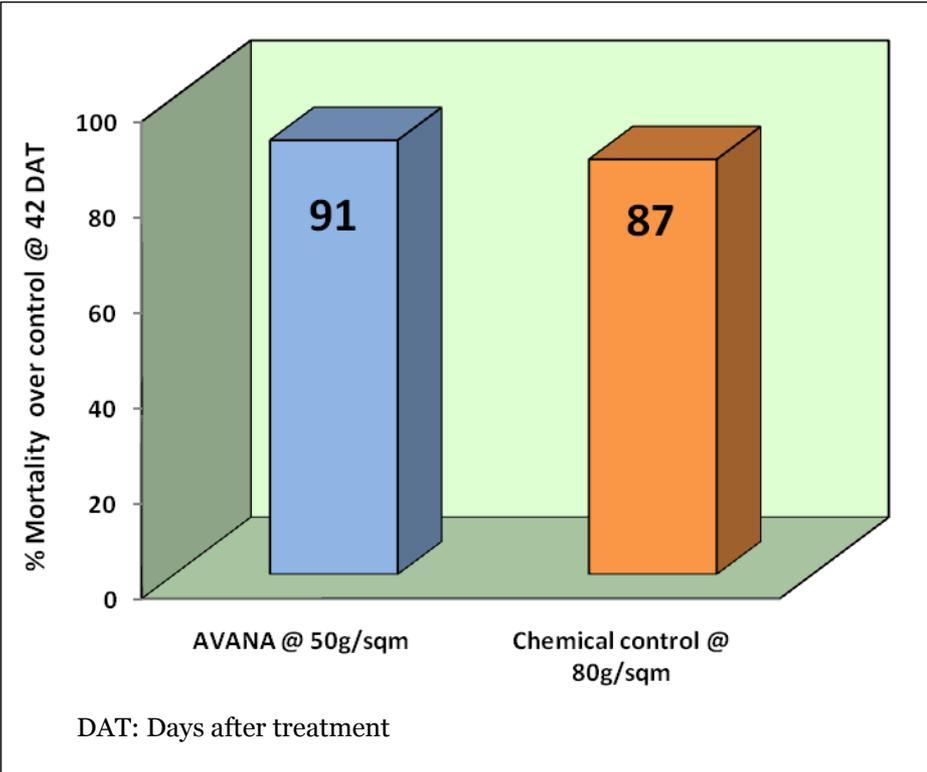


Result Highlights
10/25/2014

- Trial Location West Bengal INDIA
- AVANA showed 4.8% increase in yield over chemical control and 17.9% increase over UTC

South Korea - AVANA for Crop protection in Paddy

Bio-efficacy trials against Rice water weevil
(*Lissorhoptrus oryzophilus* Kuschel)



Nursery application, S.Korea

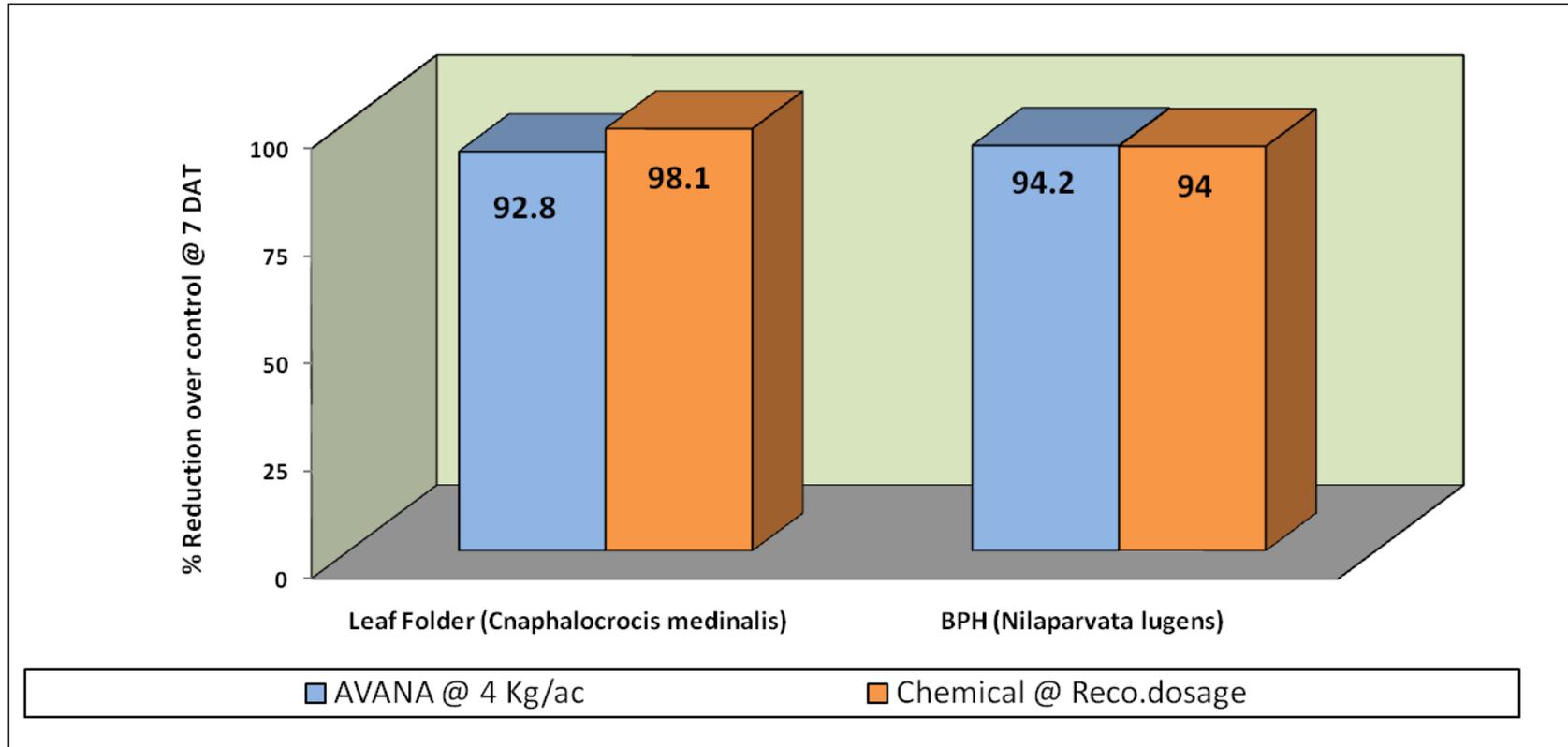
Result Highlights

Better control of water weevil

Product registered in S.Korea

China - AVANA for Crop protection in Paddy

Bio-efficacy trials against Brown Plant Hopper (BPH) and Leaf Folder



• Effective control of BPH and leaf folder.

AVANA in Sugarcane

for Protection & Production



Crop Protection

ESB Control

Crop Production

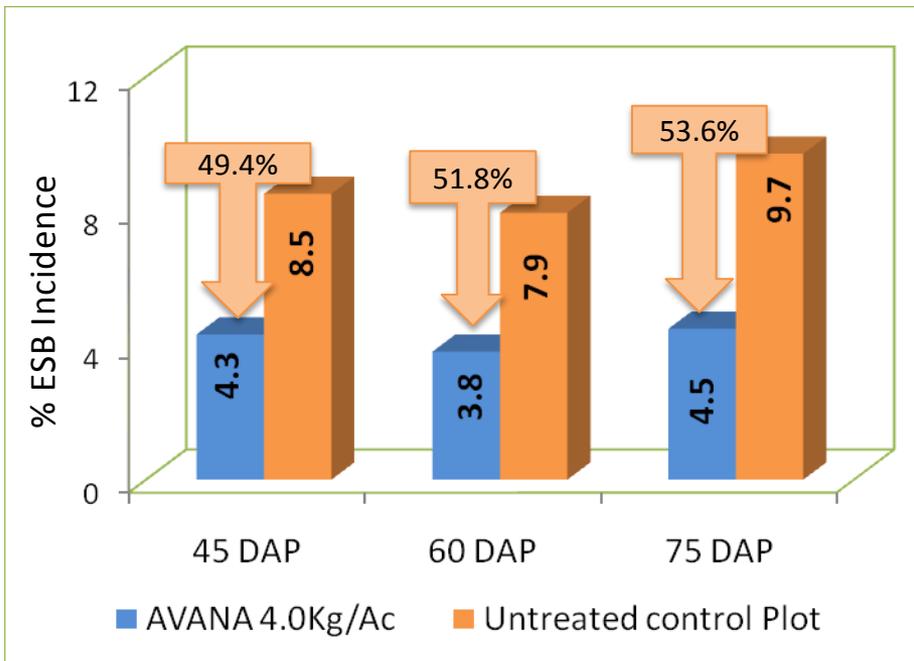
Phytotonic effects



AVANA for Crop protection in Sugarcane



Bio-efficacy Trial against Early Shoot Borer (*Chilo infuscatellus*)

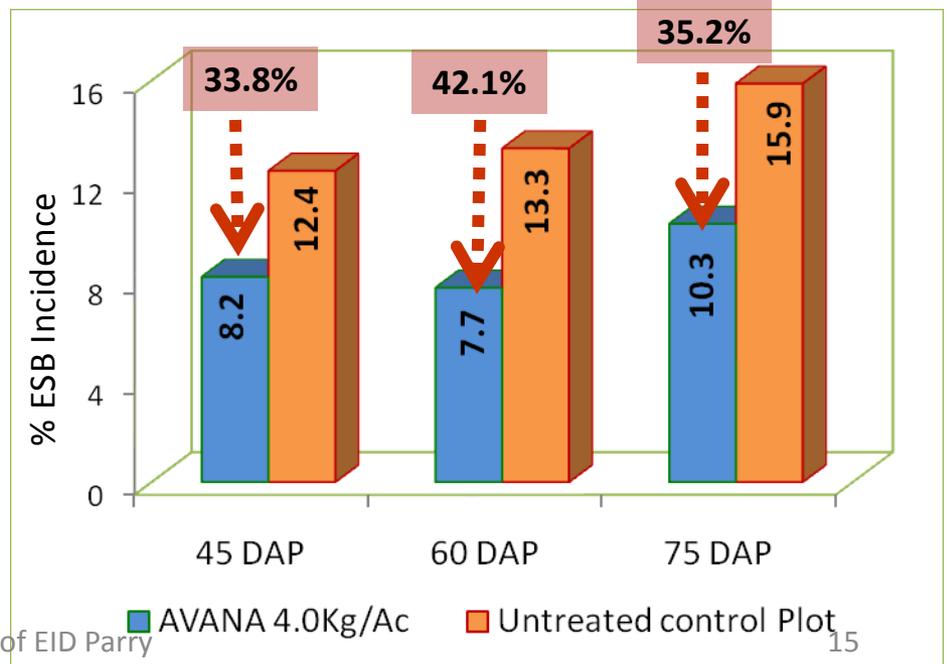


Crop Stage: Planting
Total Area: 92.8 acres
 (Average of 36 trials)

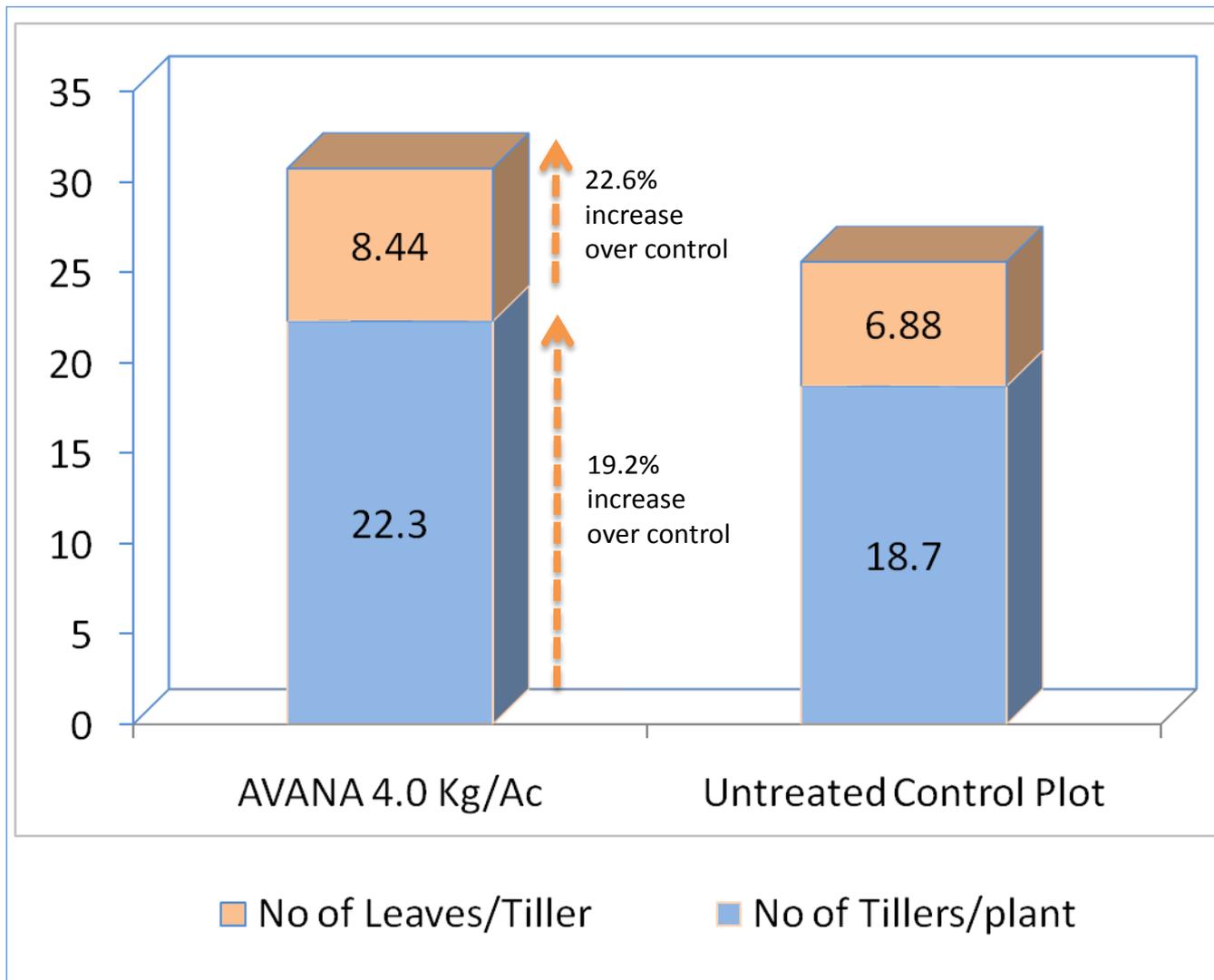
Trial Detail

Trial Detail

Crop Stage: Ratoon
Total Area: 19.4 acres
 (Average of 4 trials)



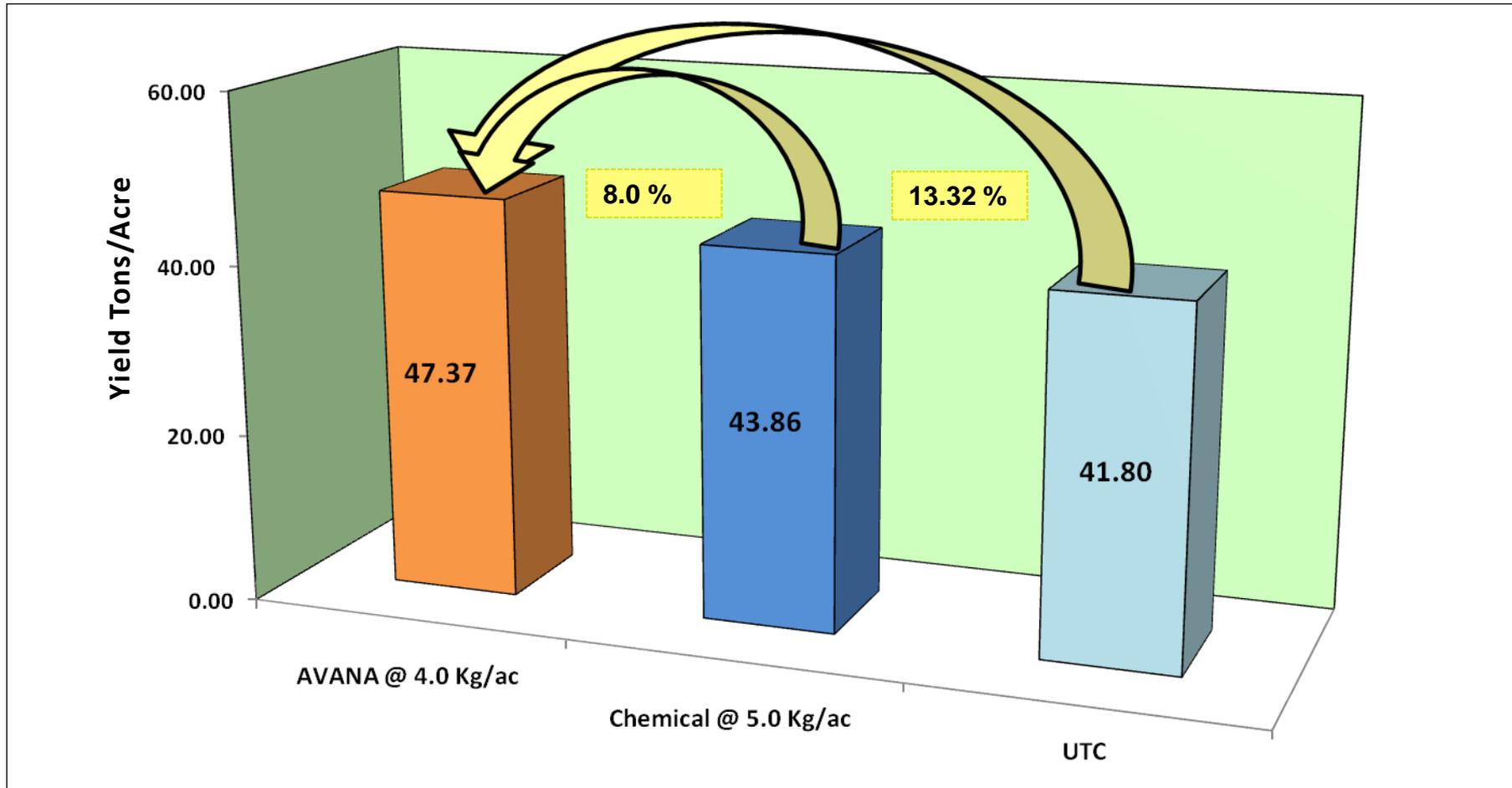
Phytotonic effects



Trial Details:
 Crop stage: Ratoon
 Total Area: 1.55 acres

AVANA for Crop Production in Sugarcane

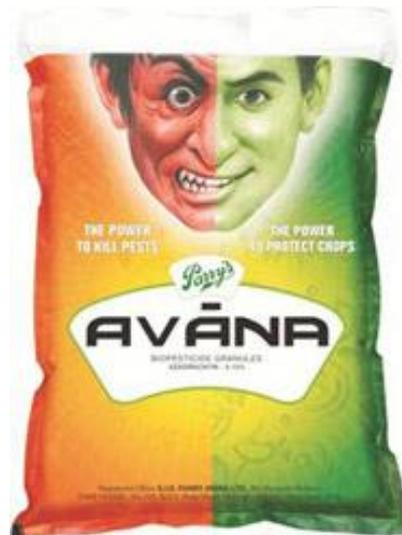
Phytotonic effects- Yield Enhancer



Result Highlights

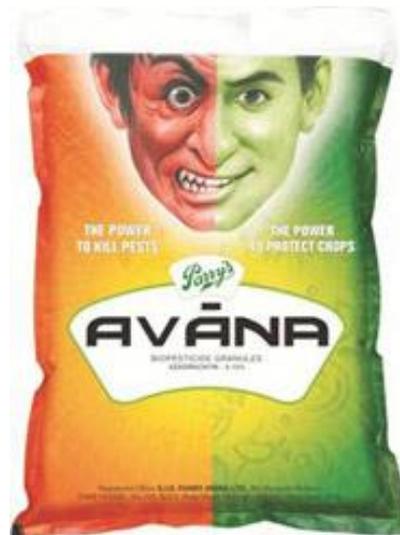
AVANA showed 8.0% increase in yield over chemical control and 13.32% increase over UTC

Conclusion



Conclusion

- ❑ Controls wide range of pest problems in Paddy and Sugarcane along with additional benefit of phytotonic effects.



Conclusion

- ❑ Controls wide range of pest problems in Paddy and Sugarcane along with additional benefit of phytotonic effects.
- ❑ Effective crop protection for long periods.



Conclusion

- ❑ Avana controls wide range of pest problems in Paddy and Sugarcane along with additional benefit of phytotonic effects.
- ❑ Effective crop protection for long periods.
- ❑ Commercially viable solution for safe and sustainable organic agriculture.





Thank You
for your kind attention !!!