Strategies for Enhancing the Seed Cotton Yield in Orissa

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Cotton, the white gold, is the important natural textile fibre of the world which accounts 30% of the total Indian export. Orissa is one of the most important states growing this cash crop under rainfed conditions in KBK districts particularly in Kalahandi, Rayagada, Bolangir, Ganjam, Koraput and Nuapada. Although the production of cotton increased from 1.08 lakh bales in 2006-07 to 1.25 lakh bales during 2007-08 still it is much below the national average i.e. 530 kg lint/ha. But in 2008-09 the production has also decreased to some extent due to high incidence of disease i.e. (Black arm of cotton and Colletotrichum leaf spot) and environmental moisture stress conditions and lack of knowledge regarding full package of practices. So for the benefit of the farming community the following full package of practices may be helpful for increasing their seed cotton yield without any risk.

The following package of practices should be followed to boost the seed cotton yield in Orissa.

- Deep ploughing ensures moisture availability at peak flowering to peak boll development stage in the last week of September after cessation of monsoon.
- Trap cropping with Caster/ Maize reduces the attack of sucking pest.
- Intercropping of Cotton: Arhar at 8:2 rows will ensure crop diversity, stability of crop yields and assured economic returns.
- Broadcasting of FYM enriched with Trichoderma formulation product @ 2.5 kg /250 kg of FYM before two weeks of sowing in the man field reduces disease attack like leaf spot and wilting in the man field.
- IPM technology including seed treatment with Bavistin @ 1.5 gm. + Plantomycin @ 1 gm+ Imidaclopride @ 7 ml./kg of seed reduces diseases and pest attack in the man field up to one month.

Use of Biological agent, Trichograma chilonis gaining popularity in the farmer’s field against bollworm in Cotton in Rayagada district
Manual weeding at 21 DAS followed by pre-emergence herbicide Butachlore at 2-3 DAS.

Foliar spray of Neem @ 5 ml./lt of water at 45 and 60 days after sowing.

Foliar spray of NAA @ 40 PPM at 45 DAS for boll retention, urea (2%) at flowering and DAP (2%) at boll development.

Installation of Pheramone trap @ 5 no./ha. for monitoring the bollworm in the field at 65 DAS and spraying Bt 1kg a.i. /ha. or Ha NPV @ 500 LE/ha. or release of Trichogramma chilonis @ 1.5 lakh /ha. for 5-6 times in 1 week interval in the appearance of bollworm.

Maximum seed cotton yield will be obtained due to detopping at 90 DAS.

Need based application of Endosulfan @ 2ml./lt. at 120 DAS reduces the attack of bollworm.

About 30 to 35 % rain water of total normal rainfall of 1200 mm. goes waste as runoff during peak rainy season and adoption of appropriate soil & water conservation including water harvesting measures and rain water management such as farm ponds can substantially increase in the cotton yields.

Deep bore wells and dug wells also contribute for higher yield under rain-fed conditions.

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