

Household production of *Isaria fumosorosea* fungus mother culture and its use against RSW



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The mother culture preparation of *Isaria fumosorosea* fungus to use against Rugose Spiraling Whitefly has been simplified to make it in the farmers' homes using the services of family members. So far the mother culture is being prepared in the laboratories of ICAR institutes as well as in the State Universities and is given to farmers to further multiply to bring it to the ready to use state. Efforts were made to further simplify the process of multiplication of mother culture right in the farmers' homes using locally available material like potatoes and starch. The procedure has been standardized after comparing and confirming the spore count results. The cost of preparation of the material was also compared and found cheap and easily available compared to lab oriented one. The details are given below.

Materials required

The following materials are required to prepare one litre of culture.

1. One plastic tray of 30 X 40
 2. 100 ml surgical spirit
- X 6 cm size



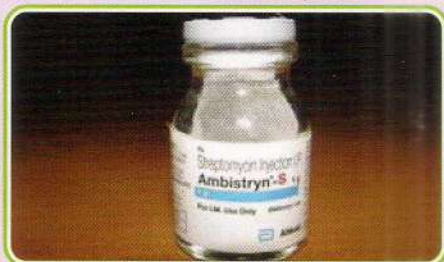
3. 100 gms of surgical cotton



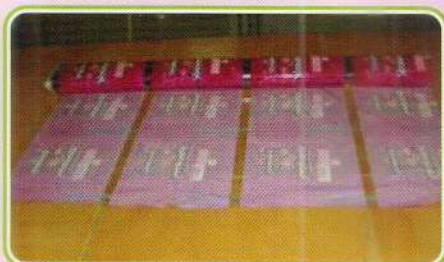
4. Maida - 5 gms



5. Streptomycin Antibiotic injection powder



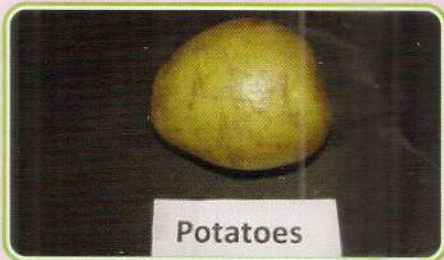
6. Gift paper roll



7. Rubber bands big size - 1 packet



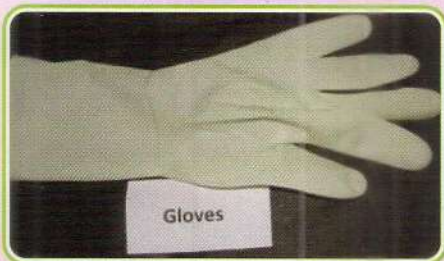
8. Potatoes- 50 gms



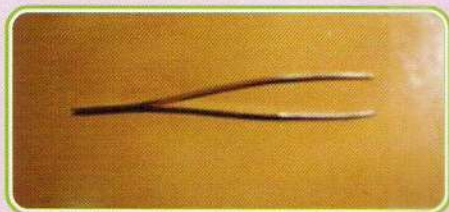
9. Mask- one number



10. Hand gloves- one pair



11. Forceps/stainless steel spoon- 1



12. Pressure Cooker

13. Gas stove

14. Mixie

15. Wax candle

16. Conical flask or used glass saline bottle-1

17. Label stickers

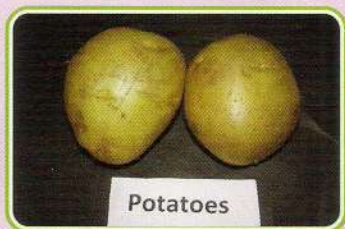


Procedure

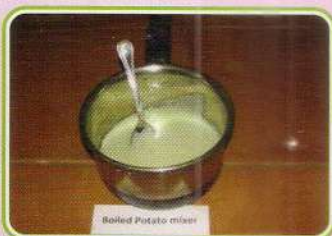
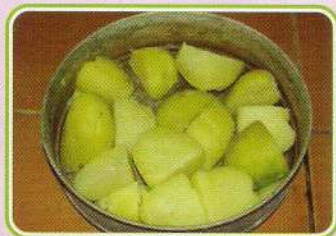
1. Before starting the preparation, wear hand gloves and mask.



2. Take 50 gms of good quality potatoes. Cut into half and put them in pressure cooker to boil. Allow it for three whistles and put off the flame afterwards. Wait till the steam is exhausted.



3. After removing the potatoes from cooker, Peel off the outer layer and put them in an electric mixer jar for maceration.



4. Mix 5 gms of boiled starch to this and put both of them into the conical flask or glass saline bottle or any steel utensil.



5. Plug the mouth of the bottle with surgical cotton and cover it with paper using rubber band. Put this into the pressure cooker on gas flame and allow for 4-5 whistles. After the exhaustion of steam, remove the sterilized liquid state media containing potatoes and starch.



6. Take a swab of surgical cotton into one hand and pour few drops of surgical spirit to wet it. Clean the entire plastic tray thoroughly to kill the microorganisms present, if any, by using the wet cotton swab. By doing so the tray is being made as disinfectant.



7. After cleaning, add 100 mg (lid full) of Streptomycin antibiotic powder into the tray.



8. Pour the media into the plastic tray in the presence of candle light or gas light. This is to kill the germs, if any, present in the mouth region.



9. For the purpose of inoculation, the fungus culture from petriplate should be taken out using stainless steel spoon or forceps. Before to that the spoon/forceps should be cleaned with spirit and heated up in candle flame so as to kill the unwanted microbes, if any attached to it.



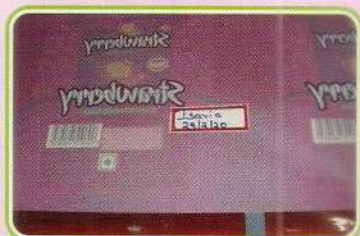
10. Three to four bits of *Isaria fumosorosea* culture from the petriplates should be removed and added to the media in the plastic tray. The media should be slightly disturbed using the spoon for even spreading of the culture spores.



11. After inoculation, the tray should be covered with gift packing paper and tighten it with a rubber band.



12. A label needs to be fixed mentioning the name of the culture and date inoculated.



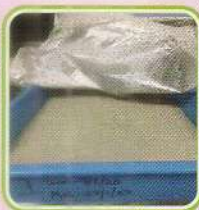
13. The tray should be kept at room temperature in a hygienic area.



14. Within a week period the culture growth can be observed covering the entire tray with white coloured mat.



15. By twelfth day the mat colour changes to grey colour indicates the readiness of the culture for use.



16. Using a mixer, the culture should be mixed for even spreading of spores. This can be stored in a bottle for further multiplication to make ready to use state.



17. The developed culture can be used for mass multiplication in farmers' fields using already developed and standardized technology of this Institute and or can be sprayed directly to control the RSW pest by mixing in water @ 5ml per litre with 5 gms of washing powder.



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