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ENTRY OF *CERCOSPORA FULIGENA* INTO TOMATO LEAVES

Cercospora is a common fungus found attacking several cultivated and weed plants. Though a very common plant pathogen its physiology and pathogenicity have not been studied properly due to the difficulty encountered in cultivating the fungus as well as in getting artificial inoculation on the host plant. Hence, in the present study an attempt has been made to determine the mode of entry of *Cercospora fuligena* Roldan into tomato leaves.

Tomato leaves of different age groups were cut into 10 mm x 10 mm bits. These bits were surface sterilized and sprayed with a thick suspension of spores using an atomizer. After 12, 24 and 48 hours of inoculation these leaf bits were kept in alcoholic cotton blue lactophenol (phenol 10g; lactic acid 10ml; glycerine 10ml; aniline blue 0.02g; distilled water 10 ml). One part of the stain was mixed with two parts of absolute alcohol and the solution was used at the rate of 5ml for every leaf bit. The leaf bits were put in this solution and allowed to boil for a minute. After an hour the solution was again boiled for a minute and kept aside for 48 hours. The leaf bits were then removed, washed gently in distilled water and put in a saturated solution of chloral hydrate for 24 hours for clearing. The cleared leaf bits were then mounted in glycerine jelly and examined under microscope.

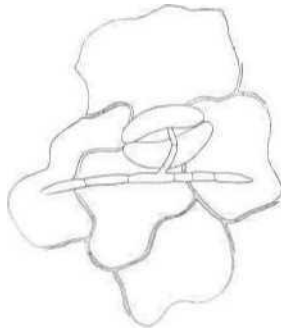
The spores were found germinated within 12 hours after inoculation. However, entry was observed only in leaves processed after 24 and 48 hours after inoculation. Appressoria were not formed. The germ tubes entered the leaf tissue only through stomata (fig. 1). Many of the germtubes were found to grow across stomata without entering. The structure of stomata was not affected by the penetration of the fungus. Penetration of the fungus was observed both on upper and lower epidermis.

Stomatal penetration without the production of appressoria has been reported by earlier workers (Rex Thomas 1943; Hemmingway; 1957). The inability of large number of germtubes in penetrating shows that the stomata do not have any attractive influence on the germtubes. Similar observation was made by Rex Thomas (1943) working with *C.carotae*.

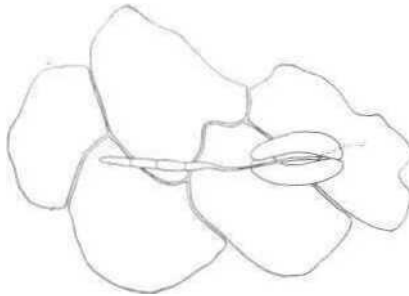
സംഗ്രഹം

തക്കാളിയുടെ ഇലപ്പുളിരോഗം വരുത്തുന്ന, സർക്കോസ്പോറ ഫുളിജിന എന്ന ഫംഗസ്സ് എങ്ങിനെയാണു് ഇലകളുടെ കോശങ്ങളിൽ പ്രവേശിക്കുന്നതു് എന്നതിനെക്കുറിച്ചു് പഠനം നടത്തി. ഇലകളിൽ സ്പോറുകൾ കലർന്ന ചെള്ളും തളിച്ചു് പന്ത്രണ്ടു മണിക്കൂർ കഴി

ENTRY OF *CERCOSPORA FULIGENA* INTO TOMATO LEAVES



50 μ



MODE OF ENTRY Or *Cercospora fuligena*

അത്യാവേശം തന്നെ സ്പോറകൾ മുളച്ചു. ഏകദേശം ഇരുപത്തിനാലുമണിക്കൂറിനും നാല്പത്തിമൂന്നുമണിക്കൂറിനും ഇടയിൽ ഫംഗസ്സിന്റെ തന്തു ഇലകളിലെ സ്റ്റോമാറ്റകൾ എന്ന സൂക്ഷ്മ രന്ധ്രങ്ങൾ വഴി കോശങ്ങളിലേക്ക് പ്രവേശിക്കുന്നതായി കണ്ടു. 100 പല ഫംഗസ്സുകളിലും കാണുന്നതുപോലുള്ള അപ്രിസ്സോറിയം എന്ന അവയവം സർക്കോസ്പോറ ഫ്യൂളിജിനയിൽ ഉണ്ടായില്ല.

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