

## Studies on the basidial formation by *Sclerotium rolsfii* Sacc.-V. basidial stage of *S. rolsfii* isolate from potato on a new medium containing organic nitrogen compound

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With 2 Figs. in the text.

In the earlier paper, series -III, the authors (1965) have reported the basidial stage of the fungus on a new uric acid medium. While working on the potato isolate of this fungus by using a variety of media, the authors could get success in getting the basidial stage on a medium not reported so far. The details of this medium together with the basidial stage are given in this paper.

The potato isolate of *S. rolsfii* was already maintained in the laboratory, after proving its pathogenicity. As reported in the earlier paper of the authors (1965 . . . series IV), Lewis (1952) medium was used as a basal medium with the reduction of sugar by 25%. The stock solution was prepared and distributed in 100 cc. lots in 250 cc. Erlenmeyer flasks. To a flask, 0.75 gm. each of the organic nitrogen compounds asparagine, creatine D L — tryptophane, glycocyamine, D L — serine, D L — cystine, taurine, D L — amino-butyric acid, leucine, arbutine, D L — methionine and D L — valine was added. The media were then sterilized, poured in the plates, inoculated with a sclerotium and incubated at 30° C. for 7 days after which the plates were kept at room temperature (25°—26° C.). Periodical observations were recorded to note the formation of basidial stage. on the 12th day, plates poured with D L-tryptophane alone developed whitish growth in the sub-centre from the creeping mycelial strands and not form the mycelium usually given out by the sclerotia. Two days later, the growth became thick, powdery white, velvety in appearance and measured 1—2 mm × 5—6 mm. On microscopic examinations this growth revealed hymenial layer having typical basidia with 1—4 sterigmata. Basidia were club shaped, thick, stout, single celled, and arose in a group of 3—6 from the same axis. They measured 13—42  $\mu$  × 5—8  $\mu$ . Sterigmata were short, thick at the base and pointed at the tip, each bearing a single basidiospore. They measured 4—7.2  $\mu$  × 1.5—2.0  $\mu$ . Basidiospores were hyaline, smooth, obclavate and measured 4.2—9.6  $\mu$  × 2.0—6.2  $\mu$ . These characters enable the identity of the isolate as *Pellicularia rolsfii* West. (Fig. 1 and 2).

As reported previously, basidial stage of the potato isolate of *S. rolsfii* was recorded by Goto (1930—35), Curzi (1932), Mund-

kur (1934), Milthorpe (1941) and Misra and Haque (1960), besides the present authors (1965), on a variety of media. Use of the D L-tryptophane in the medium has been made successfully in the present study for the first time. It appears, therefore, that some of the organic



Fig. 1. Basidial formation by potato isolate on tryptophane.

Fig. 2. Basidia, sterigmata and basidiospores of potato isolate on tryptophane. 430  $\times$ .

nitrogen compounds, are necessary for inducing the basidial stage of the isolate of *S. rolfii*, thus, confirming the observations made by Mundkur (1934), Milthorpe (1941), Venkatkrishnaiyaah (1946), Misra and Haque (1960) and the present authors (1965).

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