to elucidate both the mechanism of parabiotic neutralization and the mechanism of tolerance transmission.

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Perfect Stages of *Fusarium oxysporum* and of *Fusarium solani* f. *pisi* still Unknown

A year ago Buxton[1] reported the development of red, *Nectria* perithecia after ultra-violet irradiation of a culture of *Fusarium oxysporum* f. *pisi* (Linf.) Snyd. and Hans. He stated that the fungus causes typical wilt of pea, was re-isolated from the reddened vascular tracts of wilted plants and that, therefore, there could be little doubt but that this homothallic *Nectria* is the perfect stage of that particular wilt-inducing *Fusarium* isolate (that is, *F. oxysporum* f. *pisi*).

Recently, Gordon[2] has taken issue with Buxton's claim, pointing out quite clearly and correctly that *Nectria* (=*Hypomyces*) is well known as a perfect stage of some clones of *F. solani* (Mart.) App. and Wr. emend. Snyd. and Hans., but that for various reasons it would not be expected as a perfect stage of *F. oxysporum*.

We have examined a culture of Buxton's fungus, containing the *Nectria* perfect stage, which had been deposited with the Commonwealth Mycological Institute at Kew. We find that this fungus is a typical, homothallic *Hypomyces solani* Rke. and Berth. emend. Snyd. and Hans. (=*Nectria haematococca* Berk. and Br.), as diagnosed by the Commonwealth Mycological Institute, and Gordon, and has as its imperfect stage *Fusarium solani*. Repeated single-spore cultures made by us of both the ascospores and conidia from the Buxton culture yielded the same, homothallic species. Perithecia developed abundantly within two weeks after transfer and required only diffuse daylight for their initiation and maturation. In these respects we are in agreement with Gordon, and likewise we have not found *F. oxysporum* in the culture, just *F. solani*. These two species are very distinctive and readily differentiated in culture. Over a period of decades during which these two fungus species have been studied, no conclusive evidence has been presented, either of overlapping of the species or of their common *Hypomyces* origin.

Gordon[2] has expressed the opinion that Buxton did not have *F. oxysporum* f. *pisi* but rather *F. solani* f. *pisi* (Jones) Snyd. and Hans., and postulated that the perfect stage in *Hypomyces* (=*Nectria*) which Buxton reported is that of *F. solani* f. *pisi*. Further, that since the perfect stage of this pathogen is unknown, Buxton's report represents the first record of its occurrence.

We do not agree with Gordon's postulation. We have run two separate inoculation tests in the greenhouse on two varieties of pea. In these tests three fungi were used: Buxton's isolate, a similar homothallic *Hypomyces solani* indirectly obtained from the Rothamsted area, England, some ten years ago, and a local isolate of *F. solani* f. *pisi*. Inoculations were made by applying spore suspensions to pea seedlings growing in pots of sterilized soil. In both tests, run at different times, the plants inoculated with Buxton's fungus, the Rothamsted fungus, and the uninoculated controls were completely healthy. Neither cortical root and stem rot nor vascular wilt symptoms were present. Those plants inoculated with *F. solani* f. *pisi*, however, all showed typical brown to blackish lesions completely covering the two inches of underground hypocotyl of each plant.

Our conclusion is that the *Hypomyces* (=*Nectria*) reported by Buxton to be the perfect stage of *F. oxysporum* f. *pisi* is not the perfect stage of this fungus, nor the perfect stage of *F. solani* f. *pisi*. We suggest that this isolate is a homothallic, saprophytic fungus with an imperfect stage in *F. solani*. In our opinion, therefore, no perfect stage is yet known for any clone of *F. oxysporum*, nor for any clone of the pea root and stem rot form, *F. solani* f. *pisi*.

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Effect of 6-Methoxybenzoxazolinone on the Growth of *Xanthomonas stewartii* (Erw. Smith) Dowson and its Presence in Sweet Corn (*Zea mays* var. *saccharata* Bailey)

Previously[1] it was reported that 6-methoxybenzoxazolinone (MBOA) inhibited growth of fungi associated with root and stalk rot of field corn. This communication reports the inhibitory effect of MBOA on *Xanthomonas stewartii*, the causal organism of bacterial wilt (Stewart's disease), and the presence of this compound in the sweet corn plant.

The effect of various concentrations of MBOA in agar (beef extract 3 gm., agar 17 gm., distilled water 1,000 ml., adjusted to *p*H 6·0) on the growth of *X. stewartii* after 4 and 8 days is shown in Table 1. Inhibition of growth occurred at 0·15 mgm. per ml.,

Table 1. Growth of *Xanthomonas stewartii* on Agar (check) and on Agar containing MBOA

Concentration of MBOA (per ml. of agar) (mgm.)	Growth Days after inoculation 4	8
0 (check)	+++	+++
0·075	+++	+++
0·15	+	++
0·3	—	+
0·6	—	—

+++, maximum growth; —, no growth.