

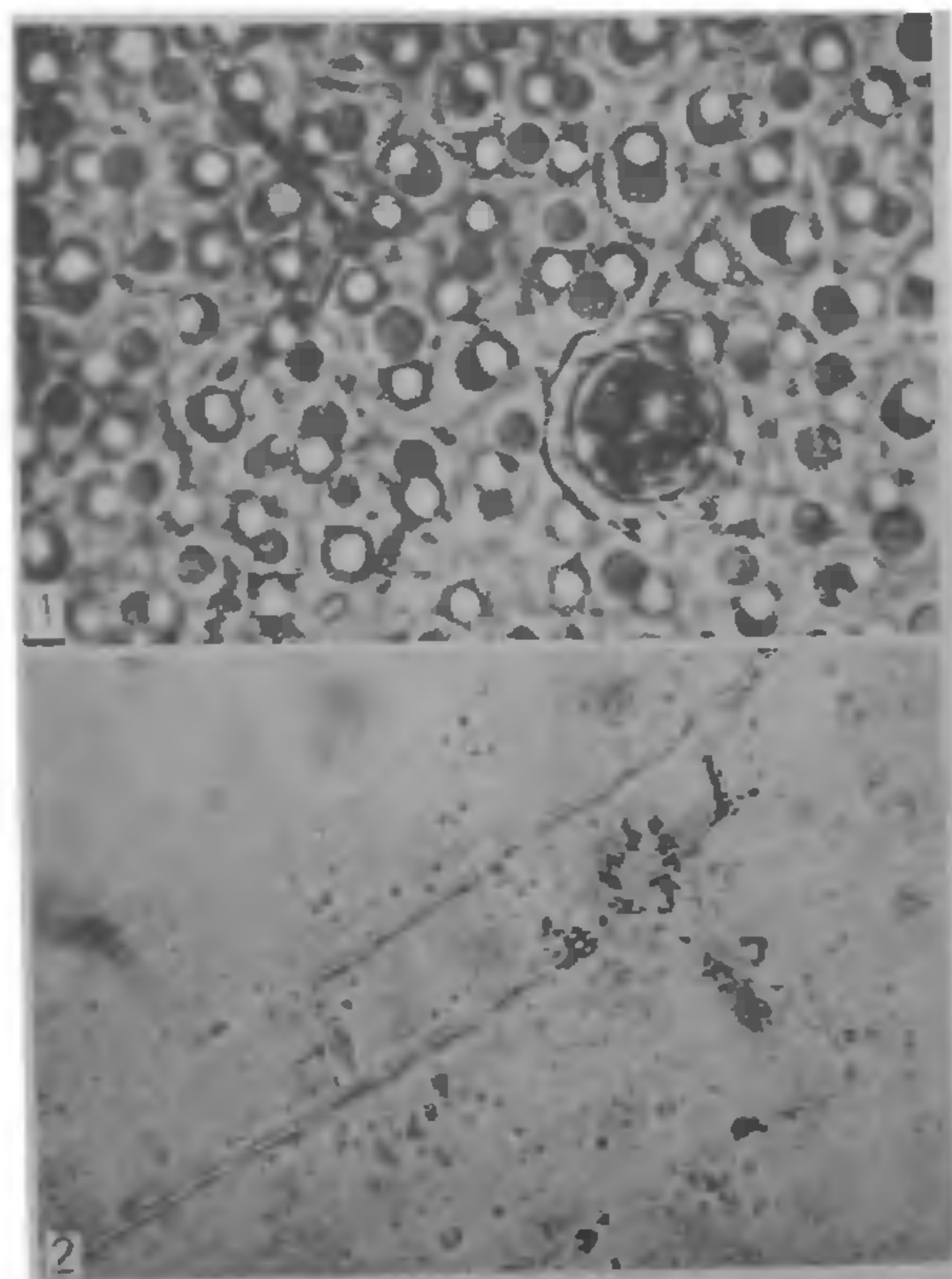
## SOME OBSERVATIONS IN THE SEED-BORNE NATURE OF *PERONOSCLEROSPORA SORGHI* IN SORGHUM

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SORGHUM downy mildew of sorghum and maize caused by *Peronosclerospora sorghi* is known to be seed-borne. In maize *P. sorghi* is reported to be present in all the seed tissues viz pericarp, endosperm and embryo<sup>1-4</sup>. But in sorghum, so far there are no reports of any inoculum in embryo though mycelium and oospores in pericarp and mycelial fragments in endosperm are reported in seeds collected from the systemically infected plants<sup>5</sup>.

Sorghum(DMS-652) seeds were collected from the disease nursery of this university. Deformed seeds from semisterile earheads of systemically infected plants were collected. The modified alkali maceration technique<sup>6</sup> was used for detection of seed-borne inoculum of *P. sorghi* and for studies on morphological variations.



Figures 1 and 2. ( $\times 62$ ) 1. Oospore in the endosperm of sorghum seed. 2. Mycelium in sorghum embryo with globular haustoria.

Typical downy mildew mycelium, coenocytic with branched nature and irregular wall, was observed in all parts of the sorghum seeds.

The pericarp region showed abundant mycelia in 98% of the seeds and mycelium was broader ( $3.4\mu$ ), had numerous finger-shaped and globular haustoria and there was oospore incidence in 20% of the seeds.

Endosperm showed comparatively less mycelium and 82% of the seeds showed the infection. The mycelia were narrower ( $1.7\mu$ ) network with only finger-shaped haustoria. Oospore incidence in endosperm was observed in 5.5% of the seeds (figure 1).

Embryo region showed sparse, very narrow ( $0.85\mu$ ) mycelial network in 38% of the seeds, with globular (figure 2) and forked haustoria. Plasmodia-like bodies and some of them giving rise to mycelial fragments were also observed. However no oospores were observed in the embryo region. Thus oospores in endosperm and mycelia in the embryo are the potential inoculum which could play an important role in the seed transmission of the pathogen.

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