the drought resistant cultivar C-306 on third day of stress (at–7·5 bars) appeared much more over the control value. The survival value of proline accumulation during severe water stress has, however, been questioned[3] and it has been suggested that high proline levels in drought-stressed leaves are essentially a symptom of injury. However the assumption that the capacity for proline accumulation is positively correlated with drought resistances can only be made with some caution[14]. Upon relief of the stress, accumulated proline is rapidly incorporated into protein or oxidized to α-oxoglutarate[15].

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NEW MARKET DISEASES OF BARHAL FRUIT

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DURING May-June 1980, about 8-12% fruits of Barhal (*Artocarpus lakoocha* Roxb) carried the rot symptoms in fruit markets at Agra and Aligarh. The infected patches were white, brown and black. The severely infected ones showed irregular depressions and exudation of a slimy substance that emitted repulsive fermented odour.

Two isolates *viz. Aspergillus niger* Van Tieghem, and *Drechslera rostrata* (Drechsler) Richardson and Eraser were the causative agents that reproduced most of the above symptoms on pre-injured inoculated fruits but not on uninjured ones. The injury inflicted during plucking, transportation, etc. may govern the present host-pathogen relationship.

A. niger induced soft, black rot that spread rapidly to spoil nearly half of the inoculated fruit within 8 days. Disintegration of tissues brought about by the pathogen resulted in the development of irregular shallow depressions accompanied with secretion of yellowish substance with foul odour.

D. rostrata developed irregular white brown spots at the site of inoculation. Mycelial growth accompanied with abundant sporulation indicated host-pathogen compatability. The rotten tissues turned water-soaked and emitted foul odour.

Prior to the present study only *Rhizopus oryzae*[1] Went and Geerlings and *Alternaria tenuis*[2] Nees have been recorded on Barhal fruits, hence the diseases described above have been noted for the first time in India.

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A TECHNIQUE FOR SOMATIC COUNTS FROM ROOT TIPS OF CEREAL SEEDLINGS RAISED BY EMBRYO CULTURE

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WIDE crosses in cereals are useful for creating variability, transferring genes and studying phylogenetic relationships. In these crosses, however, the hybrid and sometimes even backcross embryos do not develop normally and result into shrivelled, inviable seeds due to the inability of the endosperm to nourish them. Thus culturing excised embryos at early

stages of development is rather essential for wide crosses.

Usually the young embryos are cultured on artificial medium for about two weeks and later transplanted into pots. Cytological confirmation of the hybridity is done by harvesting the root tips when the plant is established in the pot. It has been possible to obtain good chromosome preparations from the root tips, harvested before transplanting the seedlings from embryo culture medium to pots.

The material was hexaploid wheat *Triticum aestivum* L., *Agropyron* species and *Agropyron*-wheat hybrids and backcrosses. The embryos were cultured 10–15 days after fertilization on Murashige and Skoog[1] medium supplemented with thiamine-HCl, L-arginine, glycine and L-tyrosine and Bactoagar. These were grown in an incubator at 26°C, and 12 hr light (6 a.m.–6 p.m.) and 85% relative humidity for 12–14 days when the root tips were harvested. The seedlings were then transplanted into pots.

The root tips were harvested around 11 a.m. The seedlings were pulled out of the medium and washed. The toot tips were pre-treated in 2% α-monobromonaphthalene for 6 hr at 2°C and fixed in glacial acetic acid for 20 min at 2°C. The root tips were then hydrolyzed in 1N HCl at 60°C for 11 min, stained in leuco-basic fuchsin for about 15 min and then squashed in 1% acetocarmine with the two cover glass technique.

Some of the cytological preparations are given in figures 1-2. The application of the method to embryo culture root tips has the advantage of an early confirmation of the hybrid nature of the seedlings.

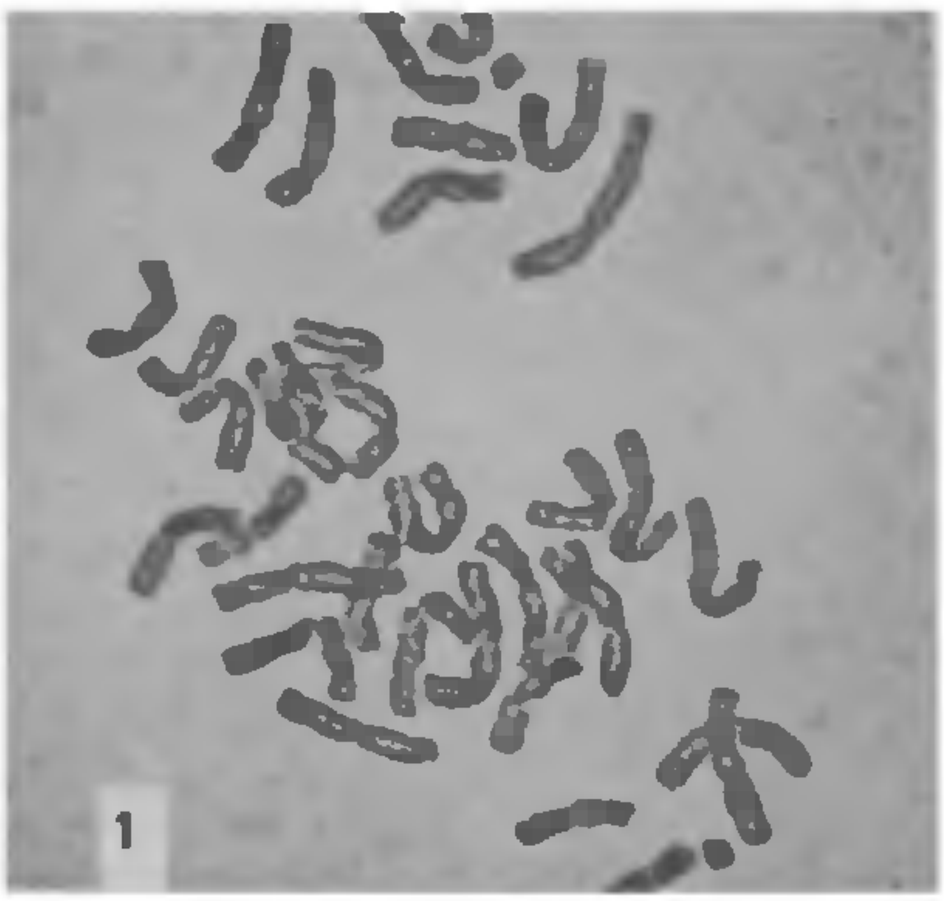

Figure 1. Somatic chromosomes spreads of *A. trachycaulum* TA 2015 × *T. aestivum* cv Chinese Spring F_1, $2n = 35$ (× 1700).

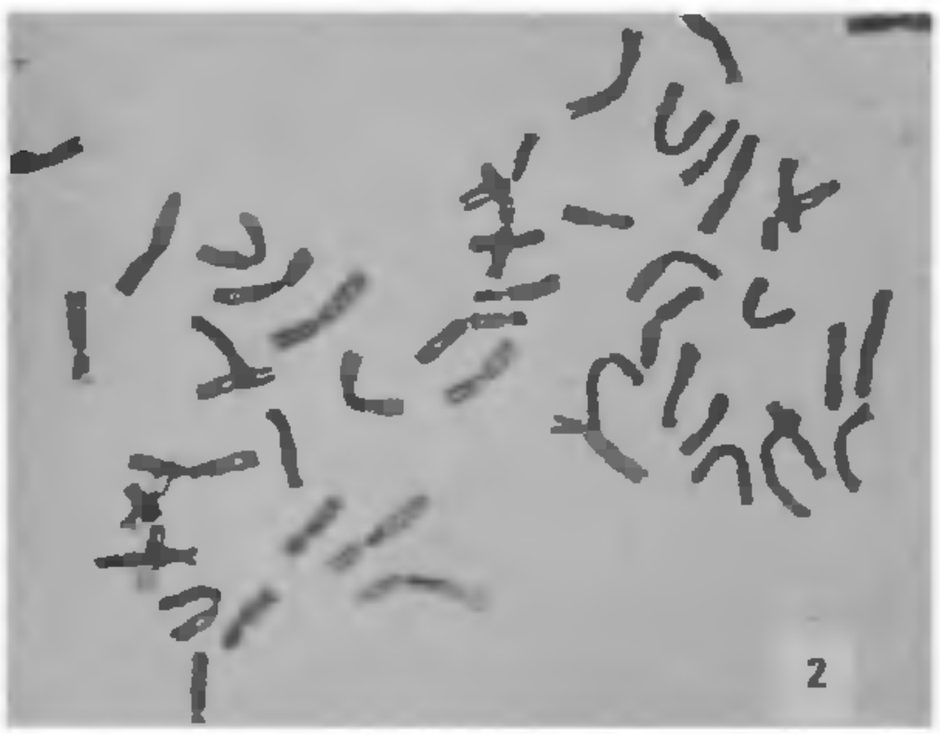

Figure 2. *A. smithii* TA 2052 × Chinese Spring BC_2, backcrosses were made to Chinese Spring, $2n = 49$ (one chromosome not in picture) (× 1000).

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SEPTORIA CREPIDIS VESTERGREN : A NEW RECORD FROM INDIA

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DURING routine survey of fungi parasitizing Angiospermic flora of tarai belt of Gorakhpur region, a leaf-spotting fungus was collected on *Youngia japonica* (Linn) DC (Asteraceae). A brief description of this fungus is presented as follows.

The fungus was characterized with a scattered pycnidia, mostly epiphyllus, globose to subglobose, ostiolate, 60–95 μm in diam.; ostiole centrally placed, spherical, wide, margined with somewhat darker cells, 23–28 μm in diam.; conidiophores very small, more or less cylindrical, hyaline; conidia, simple, smooth, thin-walled hyaline, filiform, straight to sometimes slightly curved, 2–6 transversely septate, acute at both ends, 15–45 × 1–1·5 μm (26–33 × 1·2 μm most common).

On living leaves of *Youngia japonica* (Linn) DC (Asteraceae), February 1980, Gorakhpur, leg. A. K. Singh, KA–76 IMI 24896.

The morphological features of this collection clearly indicate that it is assignable to *Septoria crepidis* Vestergren[1]. Literature survey suggests that *Septoria crepidis* Vestergren is a new fungus record from India.

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