

areas. During May and early June, a *Phytophthora* infection on *Colocasia antiquorum* Schott. was observed in the form of yellow to dark brown, circular to irregular necrotic lesions on leaves. Examination of the pathogen revealed it to be very close to citrus *Phytophthora* and distinct from *Phytophthora colocasiae* Rac. which indicated a possible role of the new host as a collateral host for citrus *Phytophthora*. Healthy plants of Coorg and Kinnow mandarins, Musambi and Pineapple sweet oranges and grapefruit were inoculated with the zoospore inoculum of the pathogen isolated from *Colocasia* and similarly healthy *Colocasia* plants with inoculum from the five isolates of citrus *Phytophthora*, by dipping healthy leaves in zoospore suspension. Inoculated plants were retained in moist chamber for 48 hr and later exposed to the open environment. Results of cross inoculation showed that inoculum from all isolates of the pathogen on citrus were pathogenic to *Colocasia* and similarly inoculum from *Colocasia* caused infection on citrus hosts, after 3-5 days of inoculation. The tests showed that the pathogen citrus and *Colocasia* are the same.

*Colocasia antiquorum* grows abundantly around ponds, on the banks of stream and stagnant water. Its susceptibility to citrus *Phytophthora* shows that it serves as an active collateral host in the spread of the disease. Also, it may act as one of the primary sources of the disease, as *Phytophthora* infection on *Colocasia* is noticed earlier than on citrus.

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## A NEW DISEASE OF POTATO TUBERS CAUSED BY A NON-SPORULATING FUNGUS

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DURING 1978-80, freshly harvested tubers of Kufri Jyoti from different localities of Himachal Pradesh, were found to be fully covered with mycelial mass. After removal of mycelia from the surface, brown to dark brown, circular or angular sunken lesions were clearly seen. These lesions were either water soaked (figure 1) or dry (figure 2) depending upon the soil moisture. Lesions also coalesced to form bigger patches covering the major portion of the tuber surface. At later stages, the old infection foci developed white star-like rays in the flesh visible through the skin (figure 3). When the affected tubers



**Figures 1-3.** 1. Tuber showing individual and coalesced water soaked lesions. 2. Tuber showing circular, oval and angular lesions which are dry in appearance. 3. Infected tuber showing white star-like rays on the sites of initial foci of infections.

were cut open, the flesh was found to be dark brown to black.

The fungus was isolated on PDA and its growth was very fast covering 10 cm dia within 7 days at 20°C. The mycelia were white, silky and ropy. The isolate developed tan coloured small sclerotia in the medium after one week. These sclerotia finally became hard dark bodies covering the whole agar surface. No sporulating structure developed in the isolate even after 12 months of maintenance on potato dextrose agar medium. Attempts to induce sporulation were made for two consecutive years but did not yield positive results. Three of the fungi isolated from different samples were deposited at the CMI, Kew, (IMI Nos. 238445, 242289 & 250995). At C.M.I. one of the isolates was tentatively considered to be a possible member of Xylariaceae (IMI 238445).

The pathogenicity of the isolate was confirmed on freshly harvested healthy tubers of Kufri Chandramukhi and Kufri Jyoti by inserting mycelium through minor injuries (1-2 mm deep). Dry lesions similar to those found in nature developed on tubers in 8-10 days. The lesions turned water-soaked when such tubers were incubated under high humidity for 3-4 days. On further incubation for 3-4 weeks, the lesions enlarged and covered a major part of the



tubers. Cut tubers showed dark brown internal tissues. Re-isolations of the pathogen from inoculated tubers revealed the presence of the same fungus.

The maximum incidence of the disease on freshly harvested tubers of Kufri Jyoti was 22%. The disease seems to be favoured by high soil moisture and water logging conditions.

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## ANNOUNCEMENT

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### INDIAN NATIONAL SCIENCE ACADEMY MEDALS

Twenty young scientists were honoured with the Indian National Science Academy (INSA) awards for 1981 at the inaugural session of the Indian Science Congress in recognition of research work of 'exceptional work carried out by them in different branches of science and technology'.

Eighteen of the scientists were presented with the awards which carries a medal, Rs 5000/- cash and a citation each by the Prime Minister. This is the eighth year that the INSA is awarding young scientists below the age of 32. Two of the scientists were given the awards in absentia. The scientists would also be considered for an appropriate grant by the Academy.

Following are the names of scientists and their fields of research:

Dr. B. K. Chaudhuri, Magnetism Department, Indian Association for the Cultivation of Science, Calcutta; Dr. R. N. Chatterjee, Department of Zoology, University of Calcutta, for his work in the field of dosage compensation in drosophila chromosomes; Dr. U. C. Das, National Geophysical Research Institute, Hyderabad, for his work in developing computer programs in geoelectrical work; Dr. J. B. Joshi, Department of Chemical Technology, University of Bombay, for his work on analysis of multiphase contractors; Dr. Chittranjan Katti, Department of Mathematics, Indian Institute of Technology, New Delhi, for his work on the numerical analysis—investigation of finite difference methods and their convergence analysis for two point boundary value problems, Dr. B.D. Kulkarni, Chemical Engineering Division, National Chemical Laboratory, Pune, for his work on analysis of fluidising beds and multiplicity in reacting system; Dr. V. K. B. Kota, Physical Research Laboratory, Ahmedabad, for his work in the field of theoretical nuclear physics; Dr. A. C. Kunwar, Liquid Crystals Laboratory, Raman Research Institute, Bangalore, for his outstanding work on anabolic steroids and cholesterol-membrane interaction; Dr. (Mrs) Sukhada Mohandas, Indian Institute of Horticultural

Research, Bangalor, for her studies on the agro-physiological impact of the allelopathic effects of parthenium hysterophorus; Dr. R. Nagendra, Department of Geophysics, Osmania University, Hyderabad, for his contribution in developing mathematical modelling in transient pulse electromagnetic methods; Dr. Prakash S. Nagarkatti, Department of Microbiology, Defence Research and Development Establishment, Gwalior, for his immunological work in the field of denue virus infection which has relevance to the development of a prophylactic vaccine; Dr. R. Nagaraj, Centre for Cellular and Molecular Biology, Regional Research Laboratory, Hyderabad, for his work on synthesis and mode of action of alamethicin; Mr. D. Pain, Department of Enzyme Engineering, Indian Institute of Chemical Biology, Calcutta, for his work on novel approach for the assay of receptors using enzyme ligands (hormones) interaction; Dr. S. M. Srivastava, Statistical Mathematics Division, Indian Statistical Institute, Calcutta, for his work in the field of measure theory-selection and representation theorems for measurable multifunctions; Dr. K. B. Sainis, Medical Division, Bhabha Atomic Research Centre, Bombay, for his studies on receptors on normal and leukemic lymphocytes; Dr. Kuldeep S. Sidhu, Department of Zoology, Punjab Agricultural University, Ludhiana, for his contribution on the histo-chemistry and biochemistry of buffalo spermatozoa; Dr. R. D. Tripathi, Botany Department, University of Gorakhpur, for his studies on the isolation of compounds from flowering plants toxic to pathogenic fungi; Dr. K. P. R. Vittal, All-India Co-ordinated Research Project for dryland agriculture, Hyderabad, for development of a gamma probe technique for study of root activity; Dr. R. L. Yadav, Department of Agronomy and Soils, Central Institute of Medicinal and Aromatic Plants, Lucknow, for management techniques for improving the productivity of ratoon crops in sugarcane.