Various chromosomal aberrations were induced in *Vicia faba* by griseofulvin at 20–40 μg/ml. It induced multinuclearity in mammalian cells cultured *in vitro*. In the present study also griseofulvin induced multinucleate condition of cells due to cell wall inhibition. Unlike in *Vicia faba* multipolar spindles and C-mitosis were not observed in *Spirogyra* with griseofulvin, although the same concentration range, i.e., 20 and 30 μg/ml of the chemical was used.

The present study with griseofulvin on *Spirogyra* is the first attempt made on an algal material and it is interesting that this antibiotic produced positive results in bringing about various types of cytological aberrations which showed a similarity with mitomycin, rifamycin and polymyxin when applied to the same alga. However, at this stage it is not possible to specify the mode of action of this antibiotic.

Financial assistance provided by the Council of Scientific and Industrial Research to one of us (PAV) is gratefully acknowledged.

March 21, 1981.


**DIAGNOSIS OF RINDERPEST IN CATTLE BY AGAR GEL PRECIPITATION TEST**

R. N. Ramachandra, N. Ravindranath and G. N. Subbashastry
Diagnostic Laboratory, Veterinary College
Bangalore 560 024, India

The diagnosis of Rinderpest in the field is difficult because the clinical signs and the postmortem findings in Rinderpest and other infectious diseases involving gastro-intestinal tract are similar. The diagnosis becomes difficult in such cases where the clinical signs and lesions are not typical of the disease. The laboratory diagnosis in suspected cases of Rinderpest is very essential to take appropriate measures for the prevention of spread of the disease.

The Rinderpest virus is a member of the paramyxovirus group of viruses and is highly associated with the Leukocytes (Summer) and infected tissue cells (Scott). This property of virus has been made use of in the present study to confirm the diagnosis of Rinderpest by Agar gel precipitation test (AGPT).

The antisera against Rinderpest virus was raised in rabbits using Kabete 4'O strain of tissue culture Rinderpest vaccine following standard methods. The animals were infected with 1-0 ml of virus suspension containing 100 vaccine doses and mixed with an equal volume of Freund’s adjuvant. Three injections were given at weekly intervals. Ten days after last injection the rabbits were bled. The blood serum was separated and stored after addition of 0.01% thiomersol as a preservative. The serum was adsorbed with calf kidney cells, suspension of lymph node and suspension of buffy coat from healthy animals following the method of Weir et al. The presence of antibody in the serum was confirmed by performing gel diffusion test employing the reference antigen (lymph node suspension collected from experimentally infected animal) and standardised by using a known positive and a known negative sample.

In the field trials, a total number of 200 samples from cattle were screened for the presence of Rinderpest viral antigen. Of the total samples, 190 were blood samples, six lymph nodes and four spleen homogenates. In the case of blood samples buffy coats were separated and used in the test.

The AGPT was performed on 3" × 1" sized glass slides. The slides were covered with 2-5 ml of gel consisting of 1% Difco agar in normal saline. After hardening 1 mm diameter wells 3 mm apart were carved and used for charging serum against suspected material. The necessary controls were incubated at room temperature in a humidified chamber. The results were recorded after 24 hours.

Of the 200 samples tested, 83 buffy coat samples, six lymph nodes and four spleen homogenates gave precipitation lines formed by reference antigen.

This test can be used advantageously in detecting suspected and ailing cases of Rinderpest especially when the animals were still in incubation. The method adopted here is simple and quick.

Authors gratefully acknowledge Dr. B. S. Keshava-murthy, Director, Institute of Animal Health and
Veterinary Biologicals, Bangalore, for kind suggestions during this work.

December 19, 1980.


---

**ISOLATION OF *PROTEUS MIRABILIS* FROM FROZEN BULL SEMEN**

R. N. Ramachandra, M. Sathyanarayana Rao, R. Raghavan and B. S. Keshavamurthy

Department of Veterinary Microbiology and Public Health, Veterinary College, Hebbal
Bangalore 560 024, India

*Proteus mirabilis* has been incriminated in digestive and urinary tract infections of diverse species of animals.

In the present study *P. mirabilis* was isolated from frozen semen samples of a bull. The straws were supplied in frozen state, stored in liquid nitrogen, from samples having a total sperm count of 25-30 millions per dose initially and the volume of each straw was 0.5 ml extended with tris buffer containing antibiotics in standard volumes. These samples were conducted for viable count and bacterial isolation following standard techniques.

The samples were thawed and processed immediately for bacterial load by pour plate technique and typing of bacteria involved (Cruckshank). The viable count was within the standard limit (290 colonies per ml of extended semen) prescribed for frozen samples. The samples, when streaked on blood agar plates and incubated for 24 hrs at 37°C under aerobic conditions, yielded non-haemolytic greyish white, swarming colonies. The organisms were gram negative rods, motile, non-sporulating and non-capsulated. Using specific biochemical and sugar fermentation tests the isolate was typed out as *P. mirabilis* (Buchanan and Gibbons).

*P. mirabilis* is a common causative agent of cystitis in man and animals (Wilson and Miles). Although it is not possible for us to discuss the exact role of this organism in genital disturbances of cattle, it is important to take cognisance of its association with fertility and early abortions in thorough-bred mares and transmission of the agent through semen (Driscoll).

Besides this, *P. mirabilis* produces a potent endotoxin which is shown to cause abortions in animals (Roberts) viewed from this angle the isolation *Proteus mirabilis* from frozen semen samples are made as routine to determine its flora and correlated this with the percentage of conception of cows after insemination.

March 21, 1981.


---

**ANOPHELES SUBPICTUS, VECTOR OF MALARIA IN COASTAL VILLAGES OF SOUTH-EAST INDIA**


Vector Control Research Centre
Indian Council of Medical Research
Pondicherry, India

*Anopheles subpictus* is a ubiquitous mosquito, widely distributed in South-East Asian countries. This species has been incriminated as a vector of malaria in Maldives Islands, Portuguese Timor, South Java, Celebes and is suspected as a vector in Lakshadweep Islands. So far, there is no clear evidence of this species playing a definite role in malaria transmission in India. Evidence is presented here to incriminate this vector definitely in the transmission of malaria in coastal villages of Pondicherry and Tamil Nadu, where malaria has been persisting for some years.

In one of the villages, Pudukuppan, where extensive studies are being carried out, there were 33 malaria positive cases in 1978, 72 in 1979, 150 in 1980 and 156 during the period January to June, 1981. A mass blood survey was carried out in this village in May 1981 and 35 positives were recorded out of 610 blood smears examined. The anopheline mosquito fauna recorded in the village are *A. subpictus, A. vagus,*