New laboratory for virus disease studies

Department of Agriculture, Western Australia
Exotic diseases continually pose a threat to Australia’s animal industries and the consequences of major outbreak could be disastrous.

If an outbreak should occur, it is essential that clinical diagnosis is confirmed without delay for control measures to be effective.

The completion of the new Virology Laboratory, the plans of which were first drawn up five years ago, provides a building in which most exotic viral diseases could be handled with safety for diagnostic purposes in the event of an outbreak.

The spread of infective materials from this building can be completely restricted in a matter of moments. For maximum security all outgoing air and sewage will be sterilised, and leakage of infected air through outside doors, of which there are only three, will be prevented by maintaining a slight negative pressure within the building so that any air flow is inwards.

The main entrance will be locked and staff will use a second entrance, passing through change-rooms. They will enter the change-rooms, leave all their clothing and personal possessions in the lockers and will wear protective overalls inside. On completion of their work they will re-enter the change-rooms, strip naked, leaving their contaminated overalls inside, pass through a shower and dress in their normal clothing again.

Equipment required for use inside will be passed through a double-doored cabinet airlock in the outside wall, only one door of which can be opened at a time. All re-usable items of equipment and dirty clothing will be passed to the outside through a double-doored autoclave steriliser built into an outside wall.

Large animals such as horses, cattle, pigs and sheep which may be required for transmission studies, can be brought in through an animal entrance and housed in stalls or isolation rooms. No live animal will leave the building. An incinerator incorporated on the side of the building will allow disposal of all rubbish and animal carcases by cremation.

The building, though primarily designed for the handling of exotic infectious material, will also be used for routine investigation of endemic virus diseases where only the usual precautions are necessary to control the spread of infection.

Within the building there is laboratory bench space sufficient for four workers, a small room for holding records and for microscope work, a small hot room, an autopsy room and facilities for holding small animals such as rabbits, guinea pigs and mice in racks of cages.