The Use of the Micronair AU8000 Sprayer as a component of a biosecurity programme for avian influenza.

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Biosecurity programmes for avian respiratory diseases such as avian influenza have developed over a number of years based on practical experience of disease outbreaks around the world. There are some basic principles to be followed that are beneficial for the prevention and control of all infectious poultry disease and are based on the basic facts of how diseases spread:

- Movement of poultry, people, vehicles and equipment between farms.
- Contact with neighbouring flocks
- Sharing of equipment or staff between farms
- Contact with vermin or wild birds
- Contaminated water sources
- Contaminated feed
- Unsatisfactory cleaning between crops

Avian influenza does not spread by airborne transmission between farms but is able to spread within a flock by airborne transmission and over very short distances carried by dust or other airborne fomites. The main route of transmission of avian influenza is the oro-faecal route and for this reason the primary focus should be on control of faeces/litter and other fomites

Avian influenza control programmes should incorporate intensive disinfection of unpopulated housing and remedial measures in the presence of infected birds.

Spraying equipment has a major role to play in these programmes and the Micronair AU8000 is particularly suited to the practical situations encountered on poultry farms.

The Micronair AU8000 consists of a blower capable of projecting an aerosolised disinfectant approximately 6 metres in an outdoor environment (depending on wind movements) and up to 10 metres in an indoor environment and is capable of producing a range of droplet sizes that can be predetermined for different uses.

The physical behaviour of droplets inevitably varies according to their size and the choice of droplet size can be appropriate to the application target of the disinfectant.

The small uniform droplet sizes generated also facilitate the use of low volumes of disinfectant and maximise the efficiency of application of the disinfectant. Spray application of disinfectant has been shown to be effective in sanitising surfaces and is recommended by disinfectant manufacturers (1)

Use of the Micronair AU 8000 in end of crop hygiene programme.

The initial cleaning of poultry housing should involve the removal of all physical contamination. In the event that the litter is derived from birds known to have been infected with Avian influenza, it is desirable to spray the litter with an appropriate disinfectant prior to removal in order to minimise the risk of the spread of disease.

The Micronair AU8000 is ideally suited to this task as it is capable of quickly and efficiently dispersing low volumes of disinfectant in a highly efficacious manner across the floor of poultry houses.
Other debris and dust in poultry houses can also harbour avian influenza virus and it is also desirable to 'blow down' this dust from the roof, and ventilation system onto the litter prior to removal. This can be achieved by using the **Micronair AU8000** blower only - without the spray on - as long as there is minimal risk of the dust and debris being blown out side of the house and drifting to other farms. If there is a risk then a disinfectant spray should be applied at the same time as the 'blow down'.

During the 'blow down' of dust and debris, the droplet size should be set at 40-60 micron (VMD Vomume Median Diameter) diameter if disinfectant is used.

For spraying litter, a larger droplet size should be used and this is achieved by operating the blower at ¾ throttle setting in order to maximise sedimentation onto the litter.

Once the poultry house has been physically cleaned, the **Micronair AU8000** can be used to apply a uniform coating of disinfectant to all surfaces in the poultry house using the droplet size set at 40-60 microns VMD as the blower is capable of impacting these drop sizes onto surfaces to achieve maximum dispersion.

Use of the Micronair AU8000 as a preventative measure during the housing period or in the face of an avian influenza outbreak.

Aerosolisation of disinfectant in populated poultry houses has been suggested as a useful measure by several sources in particular for the control of Infectious bronchitis (2) and avian influenza (3).

The characteristics of the **Micronair AU8000** are particularly suited to this technique from both a technical and practical aspect. Generation of a particle size of 40-60 microns VMD facilitates an extended period for the disinfectant to remain airborne and therefore maximise the potential contact time with airborne virus particles. The range of the blower has the ability to disperse the disinfectant across the entire poultry house with the minimum amount of labour and in the minimum amount of time and therefore facilitates repeated application if necessary.

1.
DuPont Animal Health Solutions - Hatchery Biosecurity Programme
Spray disinfection of surfaces, 1:100 (1%), 300mls per square metre on to pre-cleaned surfaces. Misting of eggs, 1:100 (1%), 5-10 seconds per 3m3 to wet the **...**
www.antecint.co.uk/MAIN/hatchery.htm

2.
An overview of Infectious Bronchitis
Aerial **spray disinfection**. All these areas are important for controlling the effects of many infectious agents. In particular, with respiratory viruses such **...**
www.thepoultrysite.com/articles/412/an-overview-of-infectious-bronchitis - 35k - Similar pages

3. Avian Influenza, Epidemic Control Manual, CID Lines, Belgium.