

Stalosan[®] F - because drying is not enough

A farm trial to compare the efficacy of Stalosan F against the spores of *Aspergillus sp.* with that of Formaldehyde Prills.

Compiled by:

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Background

Aspergillosis is a common and usually terminal disease predominantly of young broiler chicks. Typically, chicks inhale the spores of *Aspergillus* as they hatch.

These spores often contaminate modern hatcheries and are very difficult to eradicate from the ventilation systems in the hatcheries and so become a persistent problem.

Spores found in hatcheries seldom originate there but are brought into the hatchery on the shells of eggs brought from the broiler breeder units.

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Background

Eggs become contaminated when they are laid onto possible contaminated wood shavings covering the floor of nest boxes.

Farmers limit the level of contamination by carefully selecting dry wood shavings, which are less likely to be heavily contaminated with *Aspergillus* spores as well as through the use of formaldehyde granules known as prills.

The prills evaporate, releasing gaseous formalin, which is one of the few agents known to be highly effective at killing *Aspergillus* spores.

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Background

Stalosan F may be effective against *Aspergillus* spores. Clearly, the use of a product such as Stalosan F, which poses no health risk to farm staff would be far preferential to the use of formalin which produces very toxic formaldehyde gases.

The following trial was done with the aim of determining the efficacy of Stalosan F in the control of *Aspergillus* in the nest box against formaldehyde prills.

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Method

The 2 houses on one site treated separately:

- 1) One house with Stalosan F (House A)
- 2) One house with paraformaldehyde based tablets as per usual (House B).



Houses are 95 m x 12 m = 1140m²

There are 50 nesting units with 24 nesting boxes per unit.

Nest boxes are 20 cm x 30 cm in size

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Method

Nesting boxes dusted with Stalosan F twice per week (Mondays and Thursdays) at approximately 5 - 7.5 grams per nest box.

Per usual any litter or excessive wet patches in nest boxes to be removed and be replaced with clean bedding.

Wet patches in the floor bedding to be cleared out and the area to be dusted with Stalosan F.



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Egg Hygiene:

Swabs to be taken of eggs in the Stalosan F house (House A) and the paraformaldehyde based tablets house (House B).

20 eggs per house collected.

Aspergillus counts to be done on all collected eggs

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Application: Stalosan F house



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Lab Number	Sample date	Age (weeks)	Stalosan House		Control House	
			Aspergillus		Aspergillus	
			Positive	Negative	Positive	Negative
91922	05-Jun-07	23	1	19	3	17
92325	15-Jun-07	24	3	17		20
92684	25-Jun-07	25		20		20
93562	17-Jul-07	27		20		20
94110	31-Jul-07	31		20		20
94299	02-Aug-07	32		20		20
94662	14-Aug-07	35	2	18	8	12
94836	16-Aug-07	35		20		20
95623	04-Sep-07	36	2	18	1	19
96038	13-Sep-07	37	3	17	2	18
96681	28-Sep-07	39	1	19		20
97170	09-Oct-07	41		20		20
98062	25-Oct-07	43		20		20
98960	13-Nov-07	46	1	19		20
99454	22-Nov-07	47	1	19		20
100054	06-Dec-07	49		20		20
100164	11-Dec-07	50		20		20
101681	21-Jan-08	56		20		20
102318	06-Feb-08	58	1	9		10

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	Stalosan House		Control House	
	Aspergillus		Aspergillus	
	Positive	Negative	Positive	Negative
Total positive for Aspergillus	15	355	14	356

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Observations on data

The whole trial period lasted 8 months.

During the trial period, 9 positive Aspergillus observations were realized in the Stalosan F house and only 4 in the control house.

Out of the 370 swabbed eggs, only 15 and 14 eggs were positive for Aspergillus in the Stalosan F and control houses respectively.

The highest once off incidence of Aspergillus was observed in the control house with 8 observations compared to 2 in the Stalosan F house (Mid August 2007).

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Observations on data

The spread of positive eggs was more pronounced in the Stalosan F house compared to the control house, particularly during the last 5 months of the trial (summer months).

However the incidence of positive eggs in the Stalosan F house was below 5% with only 4 positive observations being recorded for the same period.

The results indicate that formaldehyde tablets effectively eliminate *Aspergillus* spores from swabbed eggs particularly during the last 5 months of the trial.

Formaldehyde tablets are highly effective because of the formalin given off which penetrates effectively between the shavings and consequently the eggs laid.

Stalosan F is effective against *Aspergillus* when it is in contact with the spores.