

Report on a trial to assess three  
egg washing regimes in a M S Technologies  
Minimaster 4,000 (with Booster) at  
Plough Farm, Wilderne,  
Andover, Hants on 25/11/91

**Report on  
Egg Washing Trial  
For M S Technologies  
25/11/91**

Microbiology Dept  
ADAS/MAFF  
Coley Park  
Reading  
RG1 6Dt  
Tel: 0734 581222

**REPORT ON THE WASHING OF HATCHING EGGS CARRIED OUT FOR M S TECHNOLOGIES  
ON 25/11/91**

**Location** Plough Farm Wilderne, Andover, Hants.

**Egg Washer** M S Technologies Minimaster 4,000 (with Booster Facility)

**Treatments**

1. 'Nest clean' eggs using Chlorwash as mist sanitant. Concentration 12 grams/litre  
Pass speed 2½ metres/minute (Booster Speed).
2. 'Nest clean eggs' using Quat 800 as mist sanitant.  
Concentration 2 mls/litre.  
Pass speed 2½ metres/minute (Booster Speed).
3. 'Floor eggs' using Chlorwash at 6 gm/litre as prewash & at 12 gm/litre  
as mist sanitant.  
Pass speed 0.625 metres/minute.

**Microbiological Sampling**

For each treatment 5 separate eggs were taken from both before and after washing. Individual eggs were sampled aseptically into separate clean polythene bags for transport to the laboratory.

**Microbiological Examination**

Each egg was individually rinsed in 10 mls sterile peptone water and manipulated through the sampling bag whilst being rinsed to release bacteria from the shell.

The resultant rinse was tested for the presence of total bacteria and coliform organisms. Incubation was at 30°C.

*PRE-TRIALS  
(w/c USING  
\* SUCHE SAN BAR)  
FINAL PRODUCTION  
MACHINE TO HAVE  
TOP AND BOTTOM  
SAN BARS  
KNOWN AS  
MULTI-MASTER.*

**Results**

Date Sampled: 25.11.91  
Date Tested : 25.11.91

**Machine:** M S Technologies  
Minimaster 4,000 with Booster \*

**Treatment 1 - Chlorwash only**

Eggs were 'nest clean'

Egg	Before		Egg	After	
	TBC	Coliforms		TBC	Coliforms
A1	1,430,000	<10	B1	155,000	<10
A2	1,280,000	110	B2	410,000	<10
A3	17,700,000	1,800,000	B3	1,350,000	<10
A4	1,110,000	10	B4	1,100,000	170
A5	193,000	10	B5	160,000	<10
Mean	4,342,600	36,026		635,000	34
		<u>% reduction</u>		85.4	99.9

*MIST ONLY*

**Treatment 2 - Q.A.C. only**

Eggs were 'nest clean'

Egg	Before		Egg	After	
	TBC	Coliforms		TBC	Coliforms
C1	3,800,000	163,000	D1	18,500	<10
C2	2,480,000	3,400	D2	1,870	<10
C3	1,160,000	140	D3	14,500	20
C4	1,540,000	<10	D4	27,700	20
C5	740,000	40	D5	292,000	<10
Mean	1,944,000	33,316		70,914	8
		<u>% reduction</u>		96.4	99.98

*MIST ONLY*

**Treatment 3 - Chlorwash/Total  
With pre-rinse**

Eggs were soiled  
- 'floor eggs'

Egg	Before		Egg	After	
	TBC	Coliforms		TBC	Coliforms
E1	1,133,000,000	2,620	F1	1,560	<10
E2	77,000,000	100	F2	2,610	<10
E3	168,000,000	60	F3	20	<10
E4	700,000,000	<10	F4	2,010	<10
E5	144,000,000	<10	F5	64,000	<10
Mean	444,440,000	556		14,040	<10
		<u>% reduction</u>		99.97	100

*TOTAL*

All counts expressed as numbers per egg

Observation

The QAC treatment gave markedly superior results to Chlorwash when used in the mist sanitant mode (Treatment 2 Vs Treatment 1).

However, Chlorwash was exceptionally successful in treating dirty eggs when they were put through the machine at the slower rate and received a prewash treatment in addition to the mist sanitant.

The trial also shows that 'floor eggs' are likely to carry ten to 100 fold more bacteria than nest clean eggs even before treatment.

M. J. Hurst

M J Hurst  
Regional Microbiologist

9 December 1991