

EVALUATION OF TEAT COVERAGE WITH AN AUTOMATIC POST MILKING TEAT DISINFECTANT SYSTEM USING 6 DIFFERENT SPRAY DURATION SETTINGS

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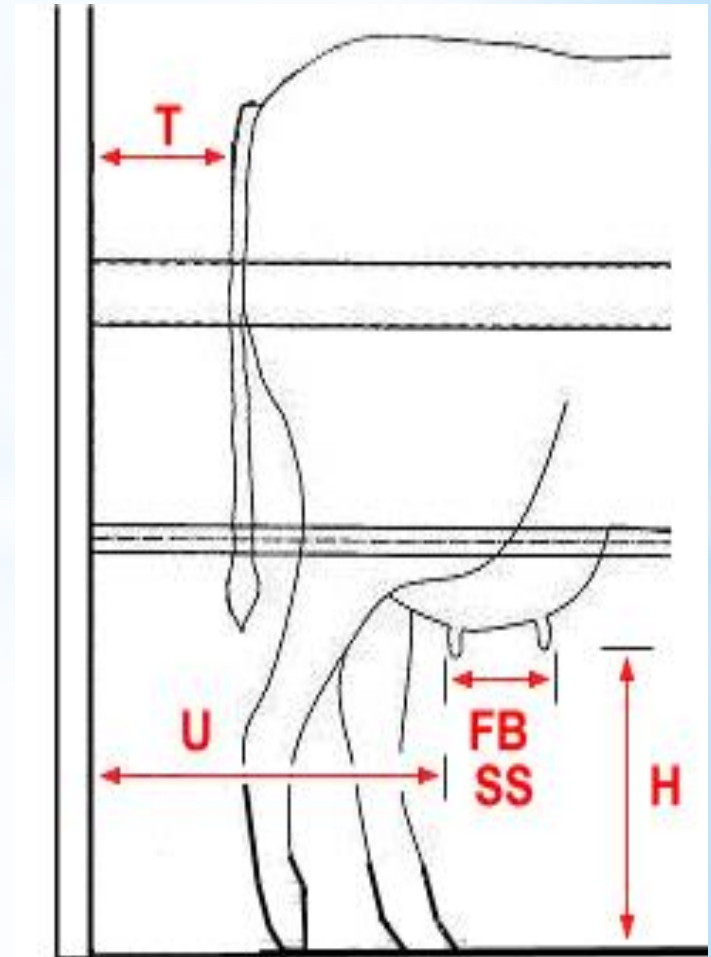
* Background

- Teat disinfection - essential element of any Mastitis Control Programme
- Disinfectant **MUST** be applied consistently with good levels of coverage
- Majority of milk producers in UK use Teat Spraying

- **2013 study of manual teat spraying (1500 cows):**
 - 3.77/4 teat ends hit
 - Only 50% teat barrel coverage
 - Large variation between and within operators

* Automatic Teat Disinfection

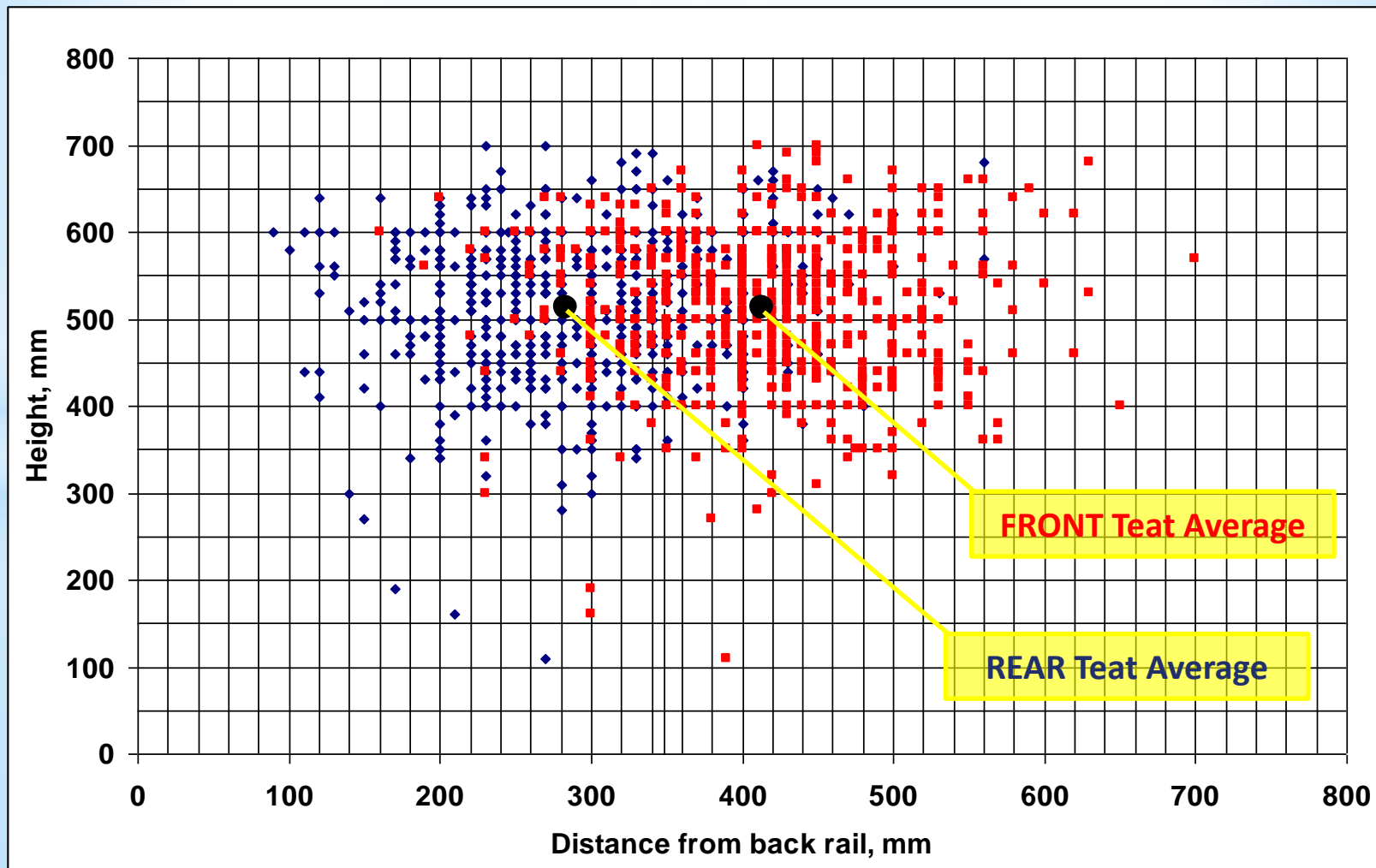
- Variety of systems in place
- BUT most are INEFFICIENT
- AIM – more consistent and at least as good efficacy as manual spraying + labour saving
- Ambic analysed & measured teat positions of mixed herd:
 - Large Rotary Parlour
 - ~ 600 cows
 - Relative to Floor & Back Rail





Automatic Teat Disinfection

Distribution of Teat Positions (side view)

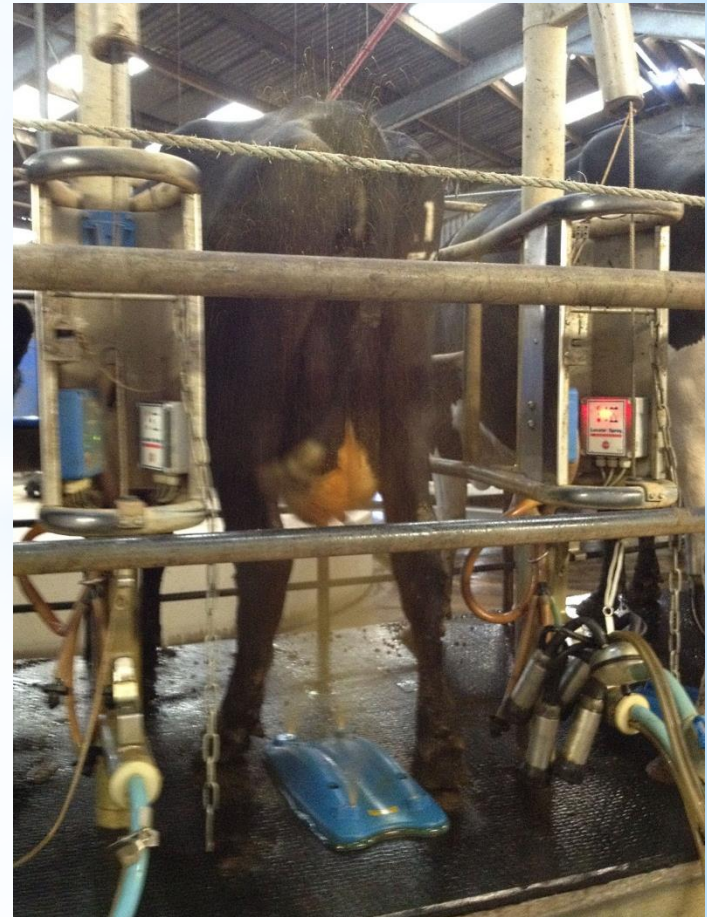


* Automatic Teat Disinfection

- After several years of preliminary trials, Locate'n'Spray developed
- Placing & angle of Nozzles
- Type, Size & Number of Nozzles
- MUST be BETTER & MORE CONSISTENT than manual spraying

- 2014 independent study of the Locate'n'Spray system
 - 60 point rotary
 - 6 Locators fitted
 - 550 cows in milk

Locate 'n' Spray



* Method & Scoring

- ❖ Teat ends – Hit or miss
- ❖ Teat barrel – Front plane = 50 max
Rear plane = 50 max
All teats scored
- ❑ 6 different Spray Durations used
- ❑ Target > 100 cows per regime
- ❑ PM & AM milking
- ❑ Volumes of chemical measured



* Regime patterns

Random:

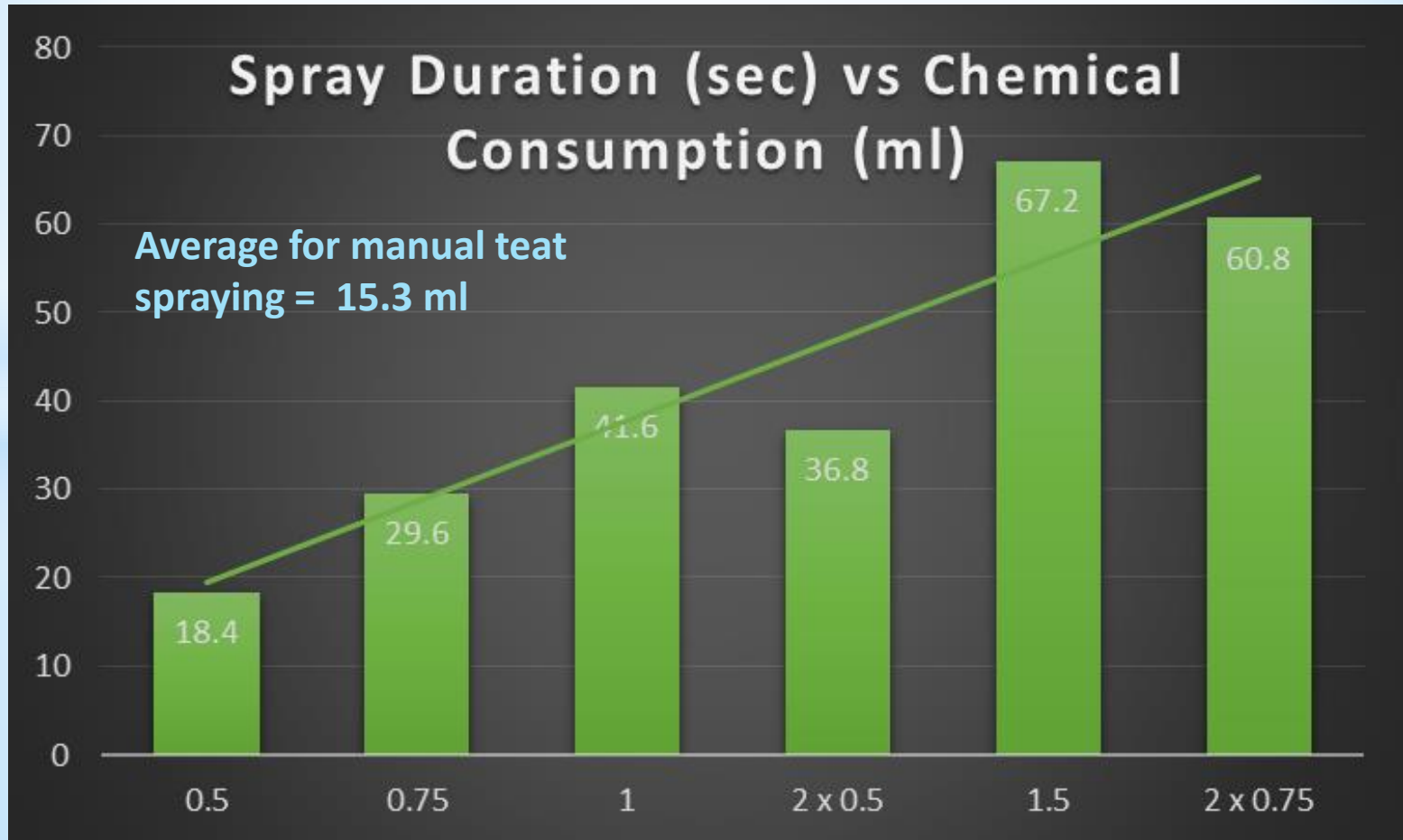
- 0.5 seconds
- 0.75 seconds
- 1.0 second
- 1.5 seconds
- 1.0 second given in two pulses, each of 0.5 seconds with a 4 second interval (double hit)
- 1.5 seconds given in two pulses, each of 0.75 seconds with a 4 second interval (double hit)



* Results

		Average Number - Teat end coverage	Number for No teat end coverage	Number of missing quarters	Average % for Left teats	Average % for Right teats	Average % for Rear teats	Average % for Front teats	Average % for All teats
0.5 seconds		3.84	15	1	60.55	63.13	64.48	59.15	61.83
0.75 seconds		3.87	8	0	73.63	68.43	71.05	71.01	71.03
1.0 seconds		3.89	11	0	86.54	86.59	83.23	89.90	86.57
1.5 seconds		3.92	8	0	91.05	90.58	90.60	91.03	90.81
2 x 0.5 seconds		4.00	0	0	89.58	88.24	87.48	90.35	88.91
2 x 0.75 seconds		3.94	6	0	89.35	88.44	88.22	89.57	88.89
	STUDY AVERAGE	3.91	8.00	0.17	81.78	80.90	80.84	81.83	81.34
	Minimum	3.84	0.00	0.00	60.55	63.13	64.48	59.15	61.83
	Maximum	4.00	15.00	1.00	91.05	90.58	90.60	91.03	90.81

* Results



* Conclusions

- 1.0 second regime > than best manual spray
- 0.5 second regime =/> than average manual spray
- 0.5 second regime – similar chemical use to Manual
- All regimes MORE CONSISTENT than manual
- All regimes BETTER TEAT END HIT RATES
- ✘ **Additional chemical cost . . BUT . . .**
- ✓ **Labour saving**
- ✓ **Allows better labour targeting:**
 - > Udder health
 - > Milking management

* Thank you

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