

Comparison of uptake and release of organisms by different swab types.

Introduction

Transport swabs are routinely used to transport microbiological specimens to the laboratory. The recently published CLSI standard M40-A is intended to assist users in selecting products capable of maintaining fastidious organisms in a viable condition until the sample arrives in the laboratory. One factor which is not always considered is the ability of swab buds to release bacteria. For example some swabs are bound particularly tightly and although organisms are collected, they are not readily released from the bud.

Method

The swabs to be tested were the Plain Amies Gel Transport Swabs from Copan Innovation and from Medical Wire. Suspensions and Dilutions of organisms were prepared in accordance with M40-A. Each swab was dipped in the test suspension (see Table 1 below), then placed in its tube of transport medium. The tubes are being held at 4C or ambient temperature. The swabs were removed from the tubes within 20 minutes (M40-A zero time) and plated onto the appropriate agar. The plates were incubated for 24 hours (*Neisseria gonorrhoeae* for 48 hours) and the colonies counted.

Results

The results are shown in Tables 1 & 2 and Figs. 1 & 2

Table 1 Organism release at 4C

	Copan	MWE
PA 10 ⁷	TNTC	TNTC
PA 10 ⁶	TNTC	TNTC
PA 10 ⁵	TNTC	TNTC
PA 10 ⁴	37	84
HI 10 ⁷	TNTC	TNTC
HI 10 ⁶	TNTC	TNTC
HI 10 ⁵	72.6	123
HI 10 ⁴	11	17.7
NG 10 ⁷	TNTC	TNTC
NG 10 ⁶	181	292
NG 10 ⁵	0.3	4.7
NG 10 ⁴	0	0.7
SP 10 ⁷	TNTC	TNTC
SP 10 ⁶	21.3	205
SP 10 ⁵	2.7	34
Spyo 10 ⁷	TNTC	TNTC
Spyo 10 ⁶	269	TNTC
Spyo 10 ⁵	31	180
Spyo 10 ⁴	3.7	29
CA 10 ⁷	TNTC	TNTC
CA 10 ⁶	141	150
CA 10 ⁵	13	16
CA 10 ⁴	1.3	1.3
CA 10 ³	0	0
EC 10 ⁷	TNTC	TNTC
EC 10 ⁶	TNTC	TNTC
EC 10 ⁵	TNTC	TNTC
EC 10 ⁴	53	141
EC 10 ³	11	14.3

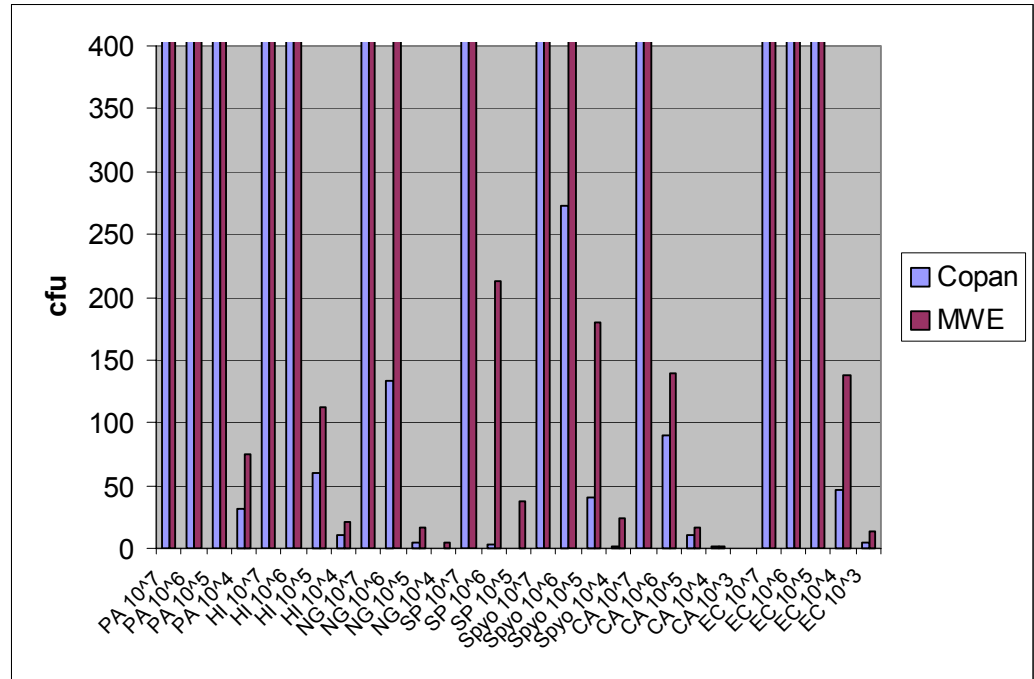


Fig 1 Organism release at 4C

Table 2 Organism release at RT

	Copan	MWE
PA 10 ⁷	TNTC	TNTC
PA 10 ⁶	TNTC	TNTC
PA 10 ⁵	TNTC	TNTC
PA 10 ⁴	32	75
HI 10 ⁷	TNTC	TNTC
HI 10 ⁶	TNTC	TNTC
HI 10 ⁵	60	112
HI 10 ⁴	10	21
NG 10 ⁷	TNTC	TNTC
NG 10 ⁶	133	TNTC
NG 10 ⁵	5	17
NG 10 ⁴	0	4
SP 10 ⁷	TNTC	TNTC
SP 10 ⁶	3	213
SP 10 ⁵	0	37
Spyo 10 ⁷	TNTC	TNTC
Spyo 10 ⁶	272	TNTC
Spyo 10 ⁵	40	180
Spyo 10 ⁴	1.7	24
CA 10 ⁷	TNTC	TNTC
CA 10 ⁶	90	140
CA 10 ⁵	10	17
CA 10 ⁴	1	2
CA 10 ³	0	0
EC 10 ⁷	TNTC	TNTC
EC 10 ⁶	TNTC	TNTC
EC 10 ⁵	TNTC	TNTC
EC 10 ⁴	46	138
EC 10 ³	5	13

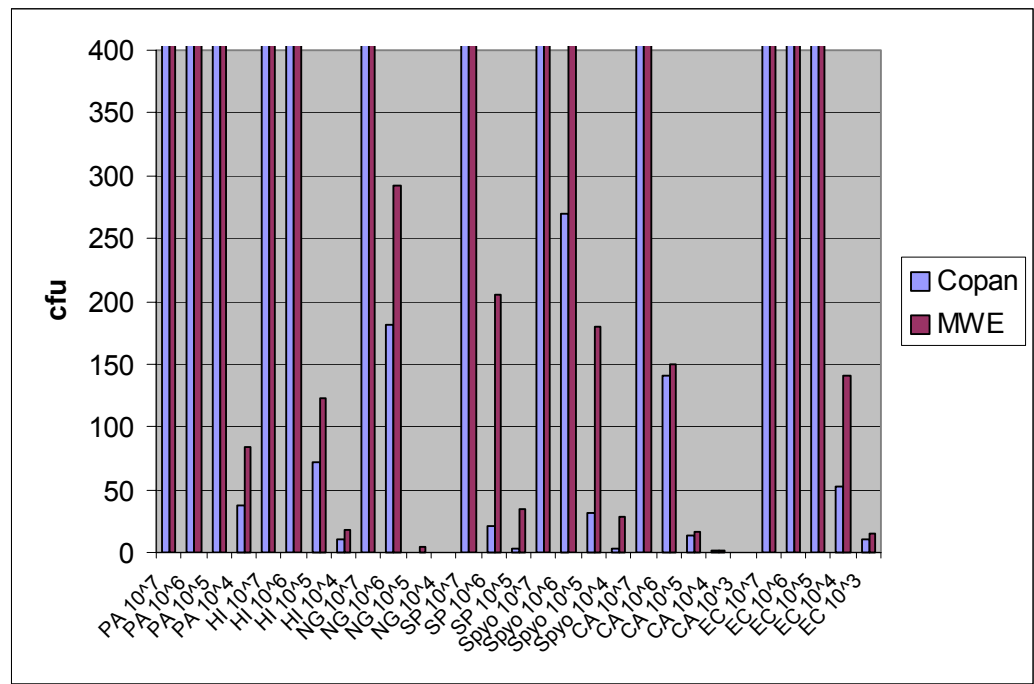


Fig 2 Organism release at RT

Conclusions

In all cases where the dilutions yielded countable numbers, the Medical Wire swabs released significantly greater numbers of organisms.

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October 2006*