DATE: REF:

Sums: (by progany, not number of recombinants).

Lac: 37+6+7+5+7+8 = 70 = 75 -(19,60,26,23,88).	70	93
Vl : 6+7+5+7+4 =	29	39
Ara : 6+7+2+5+5 =	25	33
Mal:	6	8
Xyl, S	5,5	7
Mtl	2	3
Gal, Fla	1,1	1

Perhaps a better sequence tha Lac Ara Vl Xyl Mtl Mal S would be one to fit the above, Lac Vl Ara Mal S Xyl Mtl. Where this is done, substitute i/l

This will make the descending order of individual types as follows:

100	100	41
111	111	18
011	011	8
101	110	8
010	001	8
001	010	5

1000	0010
1010	1010
0001	0100
0011	1100
0010	1000
0011	1100

No particular advantage here.

1357.

Resume of zygotes: renumbered

DATE: REF:

#	Exp/Slide	zygotes 2	3	Markers segregating 4	5	6	Lac(Ara) Vl Analysis	Mal... 8	9	Pedigr 10
1	53D2			Lac			-s			
2	D4			Lac			-s			
3	59A3	130-D3		Lac Vl	[+r] Ara		+			
4	F2			Lac			-s			
5	F5			Lac Vl	[+r]					
6	H5	H5		Lac Vl	Ara					
7	56B2	131-		Lac Vl Ara Xyl						
8	B5			Lac (Ara) Xyl	Mal					
9	C1			Lac Vl						
10	C3			Lac Vl			+r -r -s			
11	D1			Lac Vl			-r +-s			
12	F3			Lac						
13	G5	G5		Lac Vl Ara						
14	58B1			Lac						
15	H2			Lac						
16	59A3			Lac						
17	59C2, D5			Lac						
18	C3			Lac Vl Ara			+r, -r			clump
19	60A2	A2		Lac Ara						
20	61C4			Lac						
21	61G1			Lac Ara Vl	Mal	Xyl	See detail.			
22	62H5	137 H5		Lac Ara						
23	63C2				Gal Hfr		x			
24	D6			Lac						
25	G5			Lac Vl						
26	63B6	B6		ara					vl.	
27	64B3			Lac Vl						
28	64C6			Lac						
29	64D3			Lac Ara	Mal	Mtl S	X			
30	65A3, A6, B5 B6			Lac Ara Vl			+-s/++r			x
31	65D2			Lac	Mal S		++/+-			
32	65E3			Lac						
33	H3			Lac						
34	66C1	153- C1		Lac Ara Vl						
35	66C3-4	C3 C4		Lac Ara Vl			+ r/- r			
36	83A2	173-A2 [3-6]		Lac Ara Vl						
37	83E6			Lac						

These have all been ~~analyzed~~ scored for V_1^r and for Lac+V_1^r (presumably there are no cases of Lac+Vl^s/Lac-Vl^r except 56D1. Lac means that the only detected recombinants were Lac+Ara-Vls. LacVl means that Lac+Vl^r was detected; it does not rule out the additional presence of Lac+Vls or Lac-Vlr, though these are sometimes indicated. Detailed analysis is made only for Lac.Ara cases. For Mal... cases, see detail sheet. There have been no Lac+ S^s/Lac-S^r lacking +r.

~~Scan~~ final 7/4/57

1357

Resume of zygotes: renumbered

Final 7/7/57

composition
000 understood

DATE: REF:

#	Exp/Slide	zygotes	Markers segregating	Lac(Ara) Vl Analysis	[redacted]	Pedigr
1	53D2		Lac	-s	100	
2	D4		Lac	-s	100	
3	55A3	130-D3	Lac Vl [+r] Ara	+	111	
4	F2		Lac	-s	100	
5	F5		Lac Vl [+r]		101	
6	H5	H5	Lac Vl Ara		111 011	
7	56B2	131-	Lac Vl Ara Xyl			111 10000
8	B5		Lac (Ara Xyl ~~Mtl~~ Mal		100/000 · 1010/0000 ; 010	
9	C1		Lac Vl		101	
10	C3		Lac Vl	+r -r -s	101 001	
11	D1	~~G5~~	Lac Vl	~~XXX~~ -r +-s	100 001	
12	F3		Lac		100	
13	G5	G5	Lac Vl Ara		111 011	
14	58B1		Lac		100	
15	H2		Lac		100	
16	59A3		Lac		100	
17	59C2, D5		Lac		100	
18	cC3		Lac Vl ~~[illegible]~~	+r, -r	100	clump
19	60A2	A2	Lac Ara V_1^s	No lac+ now	010	
20	61C4		Lac		100	
21	61G1		Lac Ara Vl Mal Xyl	See detail.	111 · 0001/1111	
22	62H5	137 H5	Lac Ara V_1^s		110	
23	63C2		Gal Hfr	x	000 00001	
24	D6		Lac		100	
25	G5		Lac Vl		101	
26	63B6	B6	Ara Lac V_1^r		011	~~vs.~~
27	64B3		Lac Vl ~~[illegible]~~		101	
28	64C6		Lac		100	
29	64D3		Lac Ara Mal Mtl S	X	000/111 · 0000/1111	
30	65A3, A6, B5 B6		Lac Ara Vl	+-s/++r	111 100	x
31	65D2		Lac Mal S	++/+-	100/000 · 0000/0011	
32	65E3		Lac		100	
33	H3		Lac		100	
34	66C1	153- C1	Lac Ara Vl		111	
35	66C3-4	C3 C4	Lac Ara Vl	+ r/- r	111 S^R/S^S	
36	83A2	173-A2 [3-6]	Lac Ara Vl		111 011	
37	83E6		Lac		100	

These have all been ~~analyzed~~ scored for V_1^r and for Lac+V_1^r (presumably there are no cases of Lac+Vl^s/Lac-Vl^r except 56D1. Lac means that the only detected recombinants were Lac+Ara-Vls. LacVl means that Lac+Vl^r was detected; it does not rule out the additional presence of Lac+Vls or Lac-Vlr, though these are sometimes indicated. Detailed analysis is made only for Lac.Ara cases. For Mal... cases, see detail sheet. There have been no Lac+ S^s/Lac-S^r lacking +r.

Resume of zygotes: renumbered

DATE: REF:

#	Exp/Slide	zygotes	Markers segregating	Lac(Ara) Vl Analysis		Pedigr
1	53D2		Lac	-s	1000 000	
2	D4		Lac	-s	100 000	
3	55A3	130-D3 = A2	Lac Vl [+r] Ara S^R ok.	+	111 000	
4	F2	A7	Lac	-s	100 000	
5	F5	A4	Lac Vl [+r]		101 000	
6	H5	H5 A9	Lac Vl Ara		111 011	No 000!
7	56B2	131-	Lac Vl Ara Xyl Mal⁻ Mtl⁻	sole type!		
8	B5		Lac (Ara) Xyl Mal	[Lac+/-][Mal+Xyl+/--]		V_1^s
9	C1		Lac Vl		101	
10	C3		Lac Vl	+r -r -s	101 001 000	
11	D1		Lac Vl	-r +-s	100 001 000	
12	F3		Lac		100	
13	G5	G5	Lac Vl Ara		111 000 011	
14	58B1		Lac		100	
15	H2		Lac		100	
16	59A3		Lac		100	
17	59C2, D5		Lac		100	
18	C3		Lac Vl Ara	+r, -r		clump
19	60A2	A2	~~Lac Ara~~ V_1^s Lac+ did not.	000	010	
20	61C4		Lac		100	
21	61G1		Lac Ara Vl Mal Xyl S	See detail. (4 types) (Mtl⁻)		000
22	62H5	137 H5	Lac Ara V_1^s		110	No 000 now
23	63C2		Gal Hfr	x		
24	D6		Lac		100	
25	G5		Lac Vl		101	
26	63B6	B6	Ara V_1	011 000	vl.	
27	64B3		Lac Vl		101	
28	64C6		Lac			
29	64D3		Lac Ara Mal Mtl S V_1	x (4 TYPES) Xyl⁻		
30	65A3, A6, B5 B6		Lac Ara Vl	+-s/++r	000 100	x
31	65D2		Lac Xyl Mtl Mal S	++/+-	Ara⁻ V_1^s (4 types)	
32	65E3		Lac		100	
33	H3		Lac		100	
34	66C1	153- C1	Lac Ara Vl		000 111	
35	66C3-4	C3 C4	Lac Ara Vl	+ r/- s	000 111	
36	83A2	173-A2 [3-6]	Lac Ara Vl		111 011	[000]
37	83E6		Lac		100	

These have all been ~~analyzed~~ scored for V_1^r and for Lac+V_1^r (presumably there are no cases of Lac+Vl^s/Lac-Vl^r except 56D1. Lac means that the only detected recombinants were Lac+Ara-Vls. LacVl means that Lac+Vl^r was detected; it does not rule out the additional presence of Lac+Vls or Lac-Vlr, though these are sometimes indicated. Detailed analysis is made only for Lac.Ara cases. For Mal... cases, see detail sheet. There have been no Lac+ S^s/Lac-S^r lacking +r, except 21

Review Hfr pedigrees 1357.

DATE: June 12, 1957. REF: 1184.

(a) Lac Ara V_1 } Review and complete analyses especially for complementarity.
(b) Mal.... S } Handle in 2 groups 1-37 are first group.

If possible revive following stabs. #'s

(a)

3	55D3	= A2
6	55H5	= D9
13	56G5	✓
19	60A2	✓
22	62H5	✓
26	63B6	✓
30	65A3,6 B5,6 (ABCD)	
34	66C1	✓
35	66C3-C4	✓ ✓
36	83A2 (and 3-6)	✓

~~missing~~ ~~missing~~ ~~not found~~.

Lac⁻ Ara⁺

grow up in Penassay & recheck Ara, V_1, Lac

b)

7	56B2	✓
8	56B5	✓
21	61G1	✓✓
29	64D3	✓
31	65D2	✓

S^S: Lac⁺ (MMX ⁻/+) check for Ara⁺, V_1^r (Lac, Mal⁺...)
(Lac Ara V_1: ++r/--S) (MMXS ++++/---) Gal⁺F/a⁻

~~the same to start.~~

These cultures had all been kept in stabs. See comments.

Then, what are specific questions?

a) What combinations of Lac, V_1, Ara? Make fresh check of Lac, V_1 status. Where pedigrees are available, cosegregants should be checked for Ara, V_1 (probably not before).

b) See details.

6/12/57 Resume of zygotes.

All served for Lac, Ara, MXMS, Gal.

DATE: REF:

	1	2	3	4	5	6	7	8	9 Analysis?	10 Sign Judgment
51	85 C1		Lac	Ara V1				111,000	✓	✓
2	G2		Lac					100 000		✓
178-180 3	86 A1	A2, B12	Lac / Ara	•			+-/-+		✓	
4	C4	C11 C12	Lac	Ara •						
5	F4	F5 F6	Lac / Mal	•	Ara⁻				✓	
6	D1	D11	Lac	•						✓
7	G1	G12	Lac	Ara •			-+/++/--		✓	✓
	H4	B25	Lac	S	/ Mal Xyl S •		Ara⁻/V1 S		✓✓	✓
	97 D3	-H5 C3	Lac	S						
60	F4	F4	—	Ara S						
61	H4	DV	Lac	S						
62	1200	D6	Lac	S					000 100	
63		A3	Lac	S					000 100	
197 64	1203	A5 A6	Lac	S						
202 65	1204 D1	D3	Lac Ara	V1 R						
201 66	1205 E4	[illegible]	Lac Ara	V1 R						
67	G4	G[illegible], 16	Lac	S						
204-5 68	1206	2 3	Lac Ara	R/S						✓
69		5	Lac							
70		26	Lac							
71		14=16	Lac Ara	R						✓
72		34=36	Lac Ara	R						
73		41	Lac							
74		43	Lac	R						
206 75	1207	A1	Lac							
76		B5-6	Lac							
77		D1	Lac							
78		F1	Lac							
79		G4	Lac							
80	A4	A2 A5 A6	Lac/Ara							
208-218 81	1210 D1	d1 d5	Lac							✓
82	D4	2 2	Lac							
83	C1	—			Fla / MXM.		Take [illegible]			✓
207 8 84	1207 C1	C3 D2	Lac Ara							
Chur- 85	E4	A2	Lac							
86	A4	A6	Lac							
87	D5	D5	Lac							
88	G4	D6	Lac							
40										
50										

38 zygotes.

1357 α

DATE: June 14-15 1957. REF:

♂ = Lac⁺ Ara⁺ V_1^r = 111
♀ = Lac⁻ Ara⁻ V_1^s = 000

Ecoas brush isolates from stabs → pinessay on Ara, Lac / T1, sm.

	1	2	3	4	5	6	7	8	9	10
							found =	=		
	3	6	13	19	22	26	30A, DA	30B, C	30DB	
Lac T4	+ − R	+ − R	+ − R+, − S+ ?	− S	+ − S	− −R −S?	+ − S	− S	+ − +S −R	+R?
Ara T1	+ − R	+ − R	+ − +R −S	+ − S	+ − S	+ − +R −S	− S	− S	+ +R −S	
SM [Lac, Ara].	R	R	R	R	R	R	R	R	R ([redacted])	
Infer	1.1 .11	1.1 .11	.11 1.1 0.1 .00	000 010.	.10 1.0	011	100	000	.11 1.0 .00 0.1	
				why?		looks for 010 (Ara⁺ V_1^s) 001 (Ara⁻ V_1^r)				
	34	35A	35B	36	36 −3	−5	−6		21	
Lac Lac T1	+ − R [S]	+ − +R −S	+ − +R −S	+ − R	− S	− S	− S			
Ara Ara T1	+ R [S]	+ +R −S	+ +R	+ R	− S	− (+ cont?) −S +R	− (+ c.) −S +R			
SM.	R [redacted]	Lac Ara ~~+R~~ −S R	Lac Ara } +R −S	R	R	R	R		Lac + R } − S }	
	1.1 ~~0.1~~	1.1 0.0 ~~0.1~~ 0.0 .11	1.1 0.0 .11	1.1 .11	.000	000	(mit same? or was sm?) 000			
			check sm			check Ara+ T1				

discard.

1357
51....

DATE: REF:

	1	2	3	4	5	6	7	8	9	Used
blue pencil										
A.... ↓			zygotes		casibs....					
	Exp. ☐									
10										
51	1185 C1					already analyzed.			111,000	✓
52	G2					" "			100 000	✓
V_1 53	1186 A1		AR B12							
V_1 54	C4		C11 C12							
V_1	178-180 F4		F6		F5	p.w. Lac Mal!				
V_1	D1		D11							
V_1 57	G1		G12							
58	H4		B25.....			" "		Ara - V_1 S		✓
59	1197 D3		D3		C3 H5					
60	F4		F4							
61	H4		H4		D4					
62	1200 D6		D6							
63	A3		A3							
V_1 64	1203 [1197]		~~A6~~		A5					
V_1 65	1204 202·D1		D3			Lac Ara V_1				
maybe 66	1205 201 E4		E4							
V_1 67	G4		15 16							
anal. 68	1206 204-5		2 3			Lac Ara V_1				
69			5							
70			26							
anal 71			14 16			Lac Ara V_1				
anal 72			34 36			Lac Ara V_1				
73			41							
V_1·Lac 74			43			Lac V_1				
V_1 75	1207 206 A1		A1							
76	B5		B5-B6 = 18,21							
77			D1							
78			F1							
79			G4							
80	A4		A2 A5 A6							
81	207·C1		C3		D2					
82	E4		A2							
83	A4		A6							
84	D5		D5							
85	C4		D6.							
86	1210 208·18 D1		d1 d5							
87	D4		g2							
88	C1		..... C1 C2 C1							
50										

1307 α

DATE: REF:

Aus	7	8	21	29	31A	31B	7	8	9	10
Lac	+	+	+	+	+	+				
+Tl	+R −S	+S	R	R	S	S				
+sun	+R −R (+S?)	+R −R	+S −R	+S +R −S	+R −R	+R −R				
Ara	+	+	+	+	−	−				
+Tl	+R −S	S	R	R	S	S				
+sun	R	R	+S −R	+S −S +R	R	R				
Xyl	+	−+	−+	−	−	+ −				
+Tl	+R −S	S	R	R	S	+S −S				
+sun	R	R	−S −R	+S −R	R	R				
Mal	−	−+	−+	+	−	+ −				
+Tl	RS	S	R	R	S	S				
+sun	R	R	−SR	+S −R −S	R	R				
Mtl	−	−	−	+ −	−	− +				
+Tl	RS	S	R	R	S	S				
+sun	−R	−R	−RS	−R +S	−R	(+S) −R				

Reinhold 000

mids most. of already isol.

Xyl/S?

No Lac +S R seen now

Fruitless tests. 1357

DATE: June 16, 1957. REF:

1357-26. Lac⁻ Ara⁺ ... V_1^r.

Restreak V_1^r segment: any Ara⁻

Restreak whole culture for random tests on Ara⁺.

-3, 6, 13, 34, 35, 36 — clearly segregating Lac, Ara & V_1.

1.1 and .11 are identified. 111 needs to be confirmed and others excluded. 1.0 and .10 can be excluded by restreaking V_1^r segments.

Reexamine the random strains for 11, vs 01, vs 10.

JUN 17 1957

13.	Lac:	V_1^r includes −, +	[check on Ara: V_1^r all +]	(9) now 011	Infer. also 111	
34.	Lac:	V_1^r is Lac⁺ only.	"		111	
3	Lac:	V_1^R pure Lac⁺	pure Ara⁺ "		111	.00
36	Lac:	V_1^r − 1/>500 Lac⁻	" " "	111	011 (1) ✓	
35A	Lac	V_1^R pure +	" " "		111	
B	Lac	V_1^r pure +	" " "		111	
36	Lac	V_1^r +, some −.	" " "	(8) 011	111	

all these are mostly if not all Ara⁺. 111 is clearly predominant.

no .01 in this series. seen.

Random platings.

3	pure Ara+	1/100⁺ Lac⁻	v. small colonies on B Lac sm.
6	pure Ara+	Lac⁺	Lac sm ok.
13	Lac⁺, − (=) Ara⁺, −		Lac sm ditto
	Lac⁺, −	Ara⁺ −	
	Lac⁺, −	Ara⁺ −	
	Lac⁺ −	pure Ara⁺	

Note paucity of Lac⁻ generally & esp. of Ara⁻.

Red. S^R

should check $ for Ara!

(All Lac⁻ V_1^r tested, checked as Ara⁺ V_1^r)

fourth analyses to protocols 1357

DATE: 6/19/07 REF:

Single Ara⁻ colonies → ~~Ara~~ Lac, T1.

3: (1) Lac⁻ V_1^S 000

13: (11) Lac⁻ V_1^S Lac⁻ V_1^S; Lac⁺ V_1^R. ← Is this Ara⁻? No Ara⁺ (very small prop of original) 000

35A (23) Lac⁻ V_1^S 1 mixed, [redacted] check on Lac! (Ara). 000 → 111?

Replica plating

also:

(3) ~100 Lac⁺ all Ara⁺ V_1^R; also (1) above 000, 111

(6) ditto no 000! 111

(13) Lac⁺ Ara⁺ V_1^R = 1357-13A 111

Lac⁻ Ara⁻ V_1^S Lac⁻ Ara⁻ V_1^R (1) Isolate + check. (others in gaps etc.) 000

Lac⁻ Ara⁺ V_1^R 011

Replate for Ara⁻:

No Lac⁺ Ara⁻ seen. (about 14 Ara⁻ all Lac⁻)

(34) ✓ ~100 Lac⁺ Ara⁺ V_1^R 000

5 Lac⁻ Ara⁻ V_1^S 111

(35A) ✓ 50 each Lac⁺ Ara⁺ V_1^R 111

Lac⁻ Ara⁻ V_1^S 000

(36) 30 each Lac⁺ Ara⁺ V_1^R 111

Lac⁻ Ara⁺ V_1^R 011

! no 000

inferred. but cosibs are 000

~~35A~~ 13A. = Ara⁻ Gal⁻. Try Glu! ∴ most 111/000 show no others. Concentrate on others. ↓ GR

Glu⁻ (v. slow also). This is either a mutant or contaminant. Save as 13a

→ June 20. 1957. note difficulty of recovering all original components in present platings! 1307

13. Replate to search other types. Check allelism of 001.

6 " " " Too few Lac⁻.

19. Now pure Lac⁻, Ara⁺/s V_1^s. Check this. Orig. Lac⁺, ⁻.
look at sides.

21. "1612" already analysed: ~~(Ara V_1^s)~~ { Lac⁻ . MH⁻ S^R Mal⁻ Xyl⁻
Lac⁺ < + s + +
− s − − .

what are the Ara⁺ now? Revive earlier isolates.

22 plate: almost all Lac⁺. Repl → Ara. all Lac⁺

26 plate. Already 011, 000. ? Any 001, 010? 100

29 Repeat Xyl/S. Any Mal⁻ S^s? Was pure Xyl⁻!

30 DB. Ara⁺/Lac⁺/V_1^s. Plate for types, not yet identified!

31 B Mal ↔ Xyl, MH not settled.

38.

36. now pure? Replate for any Ara⁻. Not worth checking.
Cosits are 000.

51-88 Check V_1.

Plate 18 Lac

V_1 tests + preliminary = "α" 1357α
reanalysis Lac Ara V_1 mainly.

DATE: June 21, 1957. REF:

	1	2	3	4	5	6	7	8	9	10
				Lac V_1	Ara V_1			preliminary		
9				−S +R	−S −R			101	000	
10				+− R	−R −S			101	000	
11				−R (+S)	−R −S			001 100		
18				+−R	+R			111?		
10	Lac	Ara	Ara V_1	Lac V_1	Ara V_1					
53A	−	+−	−S +R	−R −S	−S +R		011 000	No 111		
B	+−	−	−S	S	−S		100			
54A	−	−	−S	S	−S		000			
B	+−	+−	+S +R	?R, +S	−S +R		111 000	Prev. 00. 11. only		
50A	−	−	−S	S			See record for recombinants			
B	−	−	−S +R	S			" previously scored.			
56	+	−	−S +R	R			101	...?		
57	+−	−	+S +R	S	−S		100			
64A	−	−	−S	S			000	B is recorded		
20 B	+−	−	−S +R	S (some −R?)			100	note.		
65	+−	+−	−S	+S −R (+R)	−S +R		011 100 ?	... See record		
66	+−	+−	−R	+S −R (+R)	−S +R		011 100 ?	...		
67A	+−	−		S			100			
B	+	+−		R			111	See Record.		
68A	+−	+−		+S −R (+R)	+S −R	sic	001 110			
B	+−	−		S	−S		100 000			
71A	+−	+−		+S +R	−S +R		(111) 000			
B	+	+		R	+R		111			
72A	+	+		R	+R		111			
30 B	+	+−		R, S	+S +R		~~110?~~	111 000		
74	+−	−		~~+S +R~~	All V_1 is Lac+		101. ~~100~~...			
75	+−	−		S				100 000		
76A	+−	−		S				100 000		
B	+−	−		S				100 000		
77	+−	−		S				100 000		
78	+−	−		S				100 000		
79	+−	−		S				100 000		
80A	−	−+		R, S	+S −R	sic				
B	+−	−		S	−S					
40 C	+−	−	−R	+S −R	−R −S		see record			
81	−+	+−		R, S						
82	+−	−		S				100 000		
83	+−	−		S				100 000		
84	+−	−		S				100 000		
85	−	−		S			Record: [100]	000 all now!		
86A	+−	−		S				100		
B	+−	−		S				100		
87	+−	−		R				101...		
50										
88A					−S +R					
B					−S					
C					−S					
M4	−S +R						101 000			
Repeat 81	−+ V_1(s)	+ V_1 s						011, 100?		

The Gal Hfr pedigree. 1357-23

DATE: June 21, 1957. REF:

Recover from stabs.

1163C2.

10 → 1 C1

10 → 10 → C3. C2

=

23 C1

23 C2 [000 0000 1/0]

23 C3

Aa T1

α: 1 + R

2 − S

3 + R.

In test × Y10/ MLac W2502, 23C2A are not fertile. Rubeola records!

25 - 26 - 27
1357

26

DATE: 1163B6 REF:

	1	2	3	4	5	6	7	8	9	10
	Recorded again as Lac⁻								011	
α:	Lac⁻ Ara⁺/⁻ $V_1^{r/s}$								000.	
	Replicate Ara → Ara T1.				Many .00 .11		No .10 .01	1? exception retest This is nibbled: ✓		V_1^s
25	Recorded as Lac⁺ Ara⁻ V_1^1. Plate + replicate to Blac T1.									
	all V_1^s are Lac⁻ (>50)								000	
✓	All V_1^r are Lac⁺ "								101	only.
27	Lac⁺ V_1^R ; Lac⁻ all V_1^s.								000 101.	
	No evidence on Lac⁺ V_1^s but there are too few Lac⁺ to tell.								✓	

29

1357
29

1164D3 DATE: REF:

	1	2	3	4	5	6	7	8	9	10
Record:		A, 1	000	0000	0	My first reading misinterpreted Xyl as Xyl^0.				
		B, 2	111	0000	0	This is based on recheck.				
		C, 3	111	1111	0					
		D, 4	000	1111	0					

recorded as Gal$^+$ Fla$^-$.

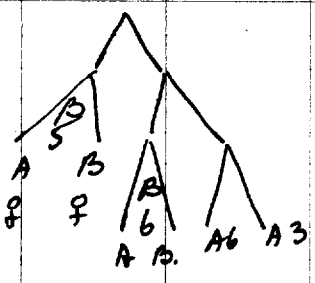
6/51. α, Xyl$^+$S^s/-r.

Some possible Xyl$^+$S^r mentioned. Notes also ref. Mal$^+$S^v. Needs recheck!

on recheck there is mottling in Xyl rx but no Xyl$^+$. Square.

1357
30

DATE: 116 3A3 REF:



A3=30A
A6=30B ♀
B5=30C ♀
B6={30DA
30DB.

α:
Lac+,− Ara− V1s
000
Lac+− Ara− V1s
Lac+S; −R; +R? Ara+R −S

000 100
000 100
100 000
111.

not yet analyzed.

30DB − plated. Ara− > Ara+
Lac+ >> Lac−.

∴ must include Ara− Lac+
Ara+ Lac−
prob Ara+ Lac+

Rephrite from 6/30
Lac → Lac, Lac T1, Ara. ↓

Lac+,−. No 0.1
Many 0.0 1.0 1.1

Ara. 0.0 are all Ara− ∴ 000

000 ✓
111 ✓
100 ✓

No 011

Ara+ ⊂ V1r.

no .10 < 010, 110
no 0.1 < 001, 011
probably many ✓ 100
no .01
exceptions are to be checked. 101 ✓ 111
probably escapes. ✓ ? 101
000

6/30. An plating of 60DB on Lac T1, ~100 V1r are all Lac+. 1 Lac−, probably escape but rubrik ✓ 000

streak on Ara T1.
~~Ara~~ + plate on ~~Ara~~ Lac T1. for ~~011~~ No

No. Ara− is V1s. all V1r are Ara+. but rubrik same exceptions.

No Ara− V1s Ara+ V1r ∴ No .01 .10

31 A–B.

1357
31

DATE: 1165D2 REF:

1	2	3	4	5	6	7	8	9	10
Record: B		000	0000 0						
		100	0011 0	A	100	0000			
		100	0000 0						
		000	0011 0						

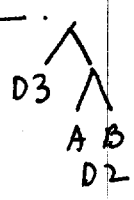
Now all MH^- Xyl^- Mel^- Ara^- mucoid. Mostly S^+, some Lac^+, Lac^- S^V. Finis.

α: Ara^- V_1^S

D3

A B

D2



1359-
34
✓

DATE: 1166-C1. REF:

1	2	3	4	5	6	7	8	9	10
~100 analyzed in uplicipl.								111 000	

1357
35

DATE: 1166C 3-4 A↓ B↓ REF:

A)

111
000 } 10 tested. Lac+,- S^R; Xyl - S^R; Mal -

B) 10

Lac+ S^S
Lac+ S^R
Lac- S^R ?

Xyl - S^R
Xyl- ? S^S (faint papillae)
Mal -.

Plating. Pure Lac^- Pure Lac^+ About 10% S^R.

20

Original records, was Lac +,-. Check S^S for phage.

Good from B Lac.

1. all V, Y. 1/10 of unselected are S^R 9/10 S^S. all Lac^+ Lac^+.
2.
3.
4.

30

000

111 0000
111 0001

looks in 35A for 0001 types! To look not 000 left in 3573.

40

50

DATE: 1183A2. REF:

sibs.
3-6 checked
α: 000...0

~60 repl test, half each →. 111 011 (000 ?)

look for 100?

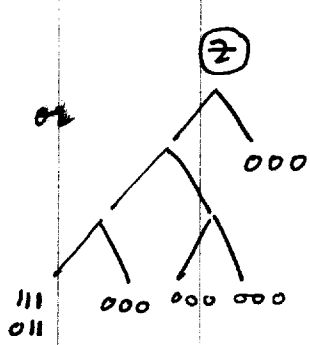
No Aca⁻ found on replating (> 300 Aca⁺).

10 → 1 0 0 0 0 A1 A3 mixed ♂ ♀

1 ← 10 0 0 0 A4 A5 A6 ♀

0 A2. ♂.

or



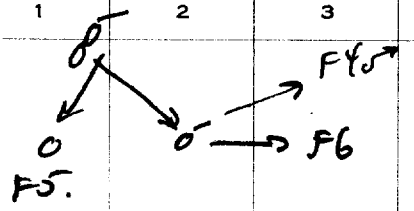
most likely

55

13507
55

1186 F4.

DATE: REF:



Dec. record F5 = ♀

F6 = (Ara⁻ Xyl⁻) Gal⁺ S^R Mtl⁻

(Lac⁻ Mal⁻ / Lac⁺ Mal⁻ / Lac⁻ Mal⁺)

no Lac⁺ Mal⁺

6/507. Only Lac⁻ recovered., Not hopeful for further detail: check on Mal; Recover F6ABC and check these on V_1.

A - A Mal⁻ V_1^S
B Mal⁺ V_1^S
C Mal⁻ V_1^S
O Mal⁺ V_1^S

✓ agreements record.

~~56: 4 Lac⁻ are V_1^R. 001 reminiscent of~~

58.

1357
~~56~~ 58

DATE: 1186H4. REF: ✓

58 Detailed pedigree fully analysed. B25 and A, B, C, D } all ara V_1^s. entire pedigree ara.

56 No V_1^s almost pure V_1^r. 101. No 000.
~4 apparent 001, look atypical fermentation. Cf 13A. Chickenghe
these are bal. slow as 13A. Do not score as 001. Save

65 – 66

1350 ✓
65 ✓
66 ✓

DATE: 1204 - 202 D1 REF: 000 111 011 1 col.

65

D3. α: Lac V_1 Ara V_1
+S −R −S +R

∴ 011 and 100 probable. Need further analysis.

D1 D1 ♂
2 D3
x

recorded as Lac', Ara'.

α Repeat: Ara⁻ S +R at least ditto Lac. contra above.
α': V_1^0 Ara⁺, Ara⁻ V_1^R Ara⁺ only. ∴ 000 and 111 .01 excluded
Lac⁺, Lac⁻ Lac⁺ 0.1 "

Replica plate: Lac⁺ V_1^R Ara⁺ = 111 and 000 predominate 000 111 ✓
2 ? 001 at margins, rechecks → 000
1 ? 011 → 011 sic.

66 1205E4. α: as above.

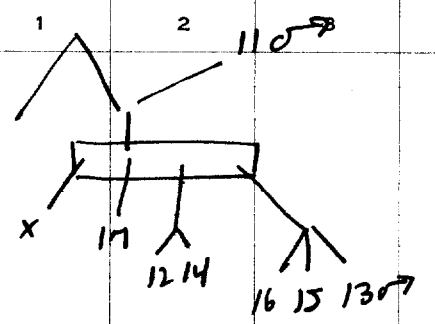
3 4 2 x → 1 ♂ Record: 2, 3 = 000
4 = Lac', Ara', V_1'

α: repeat: as above
α': V_1^R: Ara⁺ V_1^0 Ara⁺, −
Lac⁺ Lac⁺, −

∴ 000 and 111 / No ~~1.0~~ ~~10~~
↓
0.1
.01

Replica test: Mostly Ara⁺, Lac⁺. 111 and 00. only
Two dubious 001 at plate margins. Rechecks V_1 → 000

1205 - G4. = 1163C2 x C3.

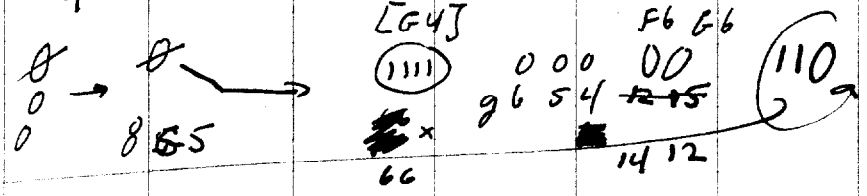


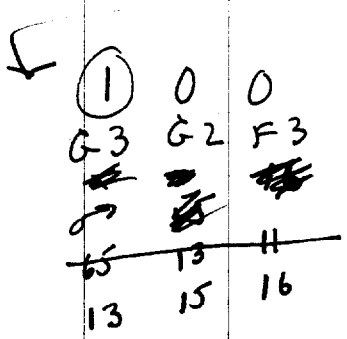
α: and plating
Record 15 = 100 = 67A ← Lac+/Lac− all Aca− V_1^S.

16: stated mixture of ♂♀ and possible artifact.

Isolation Record:

G4 - 0





It seems conceivable that

110 → 110 → 1 1 0

Alternatively 15 was a holozygote. The irregularity of this pedigree makes it a poor leg to decide any issue.

~~Isolate~~ Isolate components of 16. = 67B. streak BGal.

mostly Gal+ - . pick 2-3 to broth.

1357
68
✓

DATE: REF:

1	2	3	4	5	6	7	8	9	10

68A.

α: Ara+ V_1^S Ara− V_1^r ~~(Lac)~~ ∴ No .11

? Lac+ S − R. .01 .10

Restreak V_1^r, $V_1^\bullet$ B Lac

$V_1^\bullet$ Ara+, − V_1^R Ara− Lac+ ∴ 101

mostly Lac− 010

000

infered

Replica plate 101 000

Lac T1 most Lac+ are V_1^r, Ara− Most Lac− are V_1^S, Ara−

7 Lac+ V_1^S

The plate is too crowded for full screening of Ara/Lac comparisons.

1 probable Lac− V_1^R Ara− 001 ~~010~~

Rehuck.

All Ara+ are V_1^S

Ara− V_1^S

Ara− V_1^R Lac+ = 101

Types certainly present absent ? check these.

000 011 001 1? Lac− V_1^R ✓

010 111

101

001 110 n.f. 100 110 } 7? Lac+ V_1^S → 1 101

100 6 100

Rehuck #3: has some .10

spot Ara+ on B Lac to see if 110

No: mixture of 010 and 100.

13507
71

DATE: REF:

A) α: $Ara^+ V_1^r$, $Ara^- V_1^s$

$Lac^+ V_1^{..}$ r, s.

hard to read differential. Restrict V_1^i, V_1^r.

V_1^i $Ara^{+,-}$ Lac^{+-} 000

V_1^R Ara^+ Lac^{+-} (fewer $^-$) ∴ 011 111

looks for 100.

Replica plate (Lac, Lac T1, Ara)

No 1.0 Mostly 11. and 00. All Lac^- Ara^+ are V_1^R = 011

No Lac^+ Ara^-

No .10
.01

∴ established $\overline{000}$ (all Ara^-).
$\overline{111}$
$\overline{011}$

No $\overline{100}$ in samples 100 cells. looks for more?

1357

72B

DATE: REF: 111

	1	2	3	4	5	6	7	8	9	098

Replica: mostly Lac+ Ara+. All ~~L~~ V,R are Lac+ A,R+ Ara.+
Lac, Ara engineered.

72A also 111 rx

6/22/57

Preliminary resume 51-88

1357

DATE: REF:

#	Exp'code	coz.	sibs	prelim scores	6	7	8	Data page?	Finish
51	1185 C1				111 000				>
52	G2				100 000				>
53	1186 A1	A2 B12			011 000;100 No 111				>
54	C4	C11 C12			000; 111 000				>
55	F4	F6	F5	Lac' Mal'	00;10;01 No 11		V_1^S.	•	✓
56	D1	D11			101				
57	G1	G12			100				>
58	H4	extensive pedigree		Lac Mal Xyl....	.00....			•	>
59	1197 D3	D3	C3 H5		100 000				>
60	E4				010				>
61	H4	H4	D4		100				>
62	1200	D6			100				>
63		A3			100				>
64	1203-197	a5-a6..			100				>
65	1204 D1	D3		011 100				•	
66	1205 E4			011 100				•	
67	1205 G4			100 ; male?				•	
68	1206 204-5	2;3		001 110; 100 000					
69		5			100				>
70		26			100				>
71		14 16		111 000					
72		34 36		111 110?					
73		41			100				>
74		43		100					>
75	1207 206-	A1			100				>
		B5			100				>
		~~D1~~ D1			100				>
		F1			100				>
79		G4			100				>
80	A4	A2-5-6		010 001; 000 100; 001 100				•	✓
81	207C1	C3	D2						
82	E4	A2		100					>
83	A4	A6		100					>
84	D5	D5		100					>
85	G4	D6		(100) now 000					>
86	1210 208D1	d1 d5		100; 100					>
87	C1	~~D4~~ D4 g2		101...					
88				Fla+ see pedigree				•	