DATE:

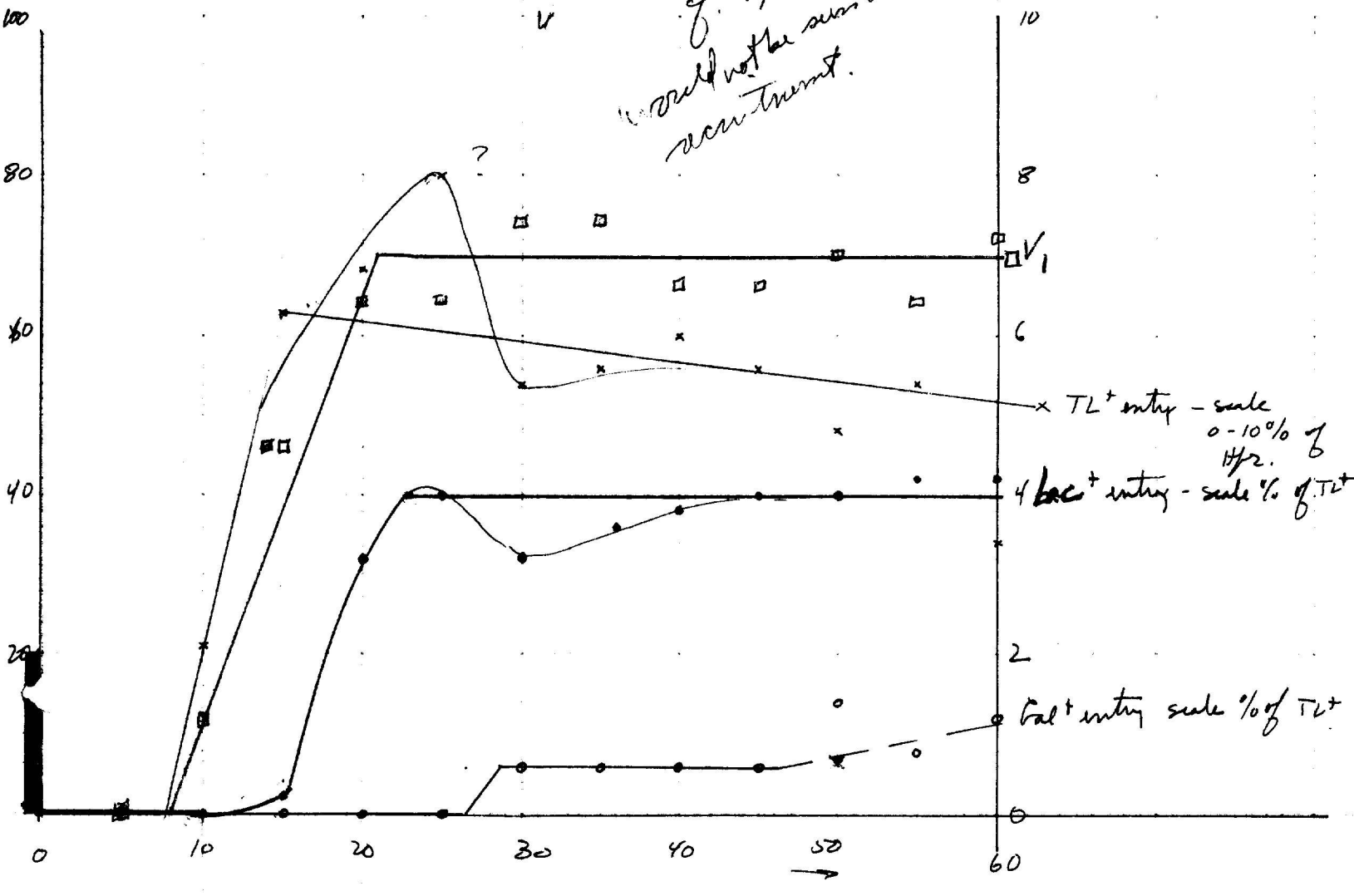
samples of 50 ml

REF: 1401/2

	1	2	3	4	5	6	7	8	9	10
	Time	TL+ % (Hfr)	T' (=) % (TL+)	Lac % (TL+)	Gal (2 TL+)					
	0	0	-	-	-					
	5	0	-	-	-					
10	10	2.1	12	0	0					
	15	6.3	48	2	0					
	20	6.8	64	32	0					
	25	8.0	64	40	0					
	30	5.4	74	32	6					
20	35	5.6	74	36	6					
	40	6.0	66	38	6					
	45	5.6	66	40	6					
	50	4.8	70	40	14					
	55	5.4	64	42	8					
30	60	3.4	72	42	12					
40										
50										

% of Lac, Gal, T_1
based on first samples of
50 colonies each.

? Rothis a real inflection?
- Lethal effect of hy^+ on hy^+?
of hy^S & hy^S.
would not be seen with continuous
recruitment.

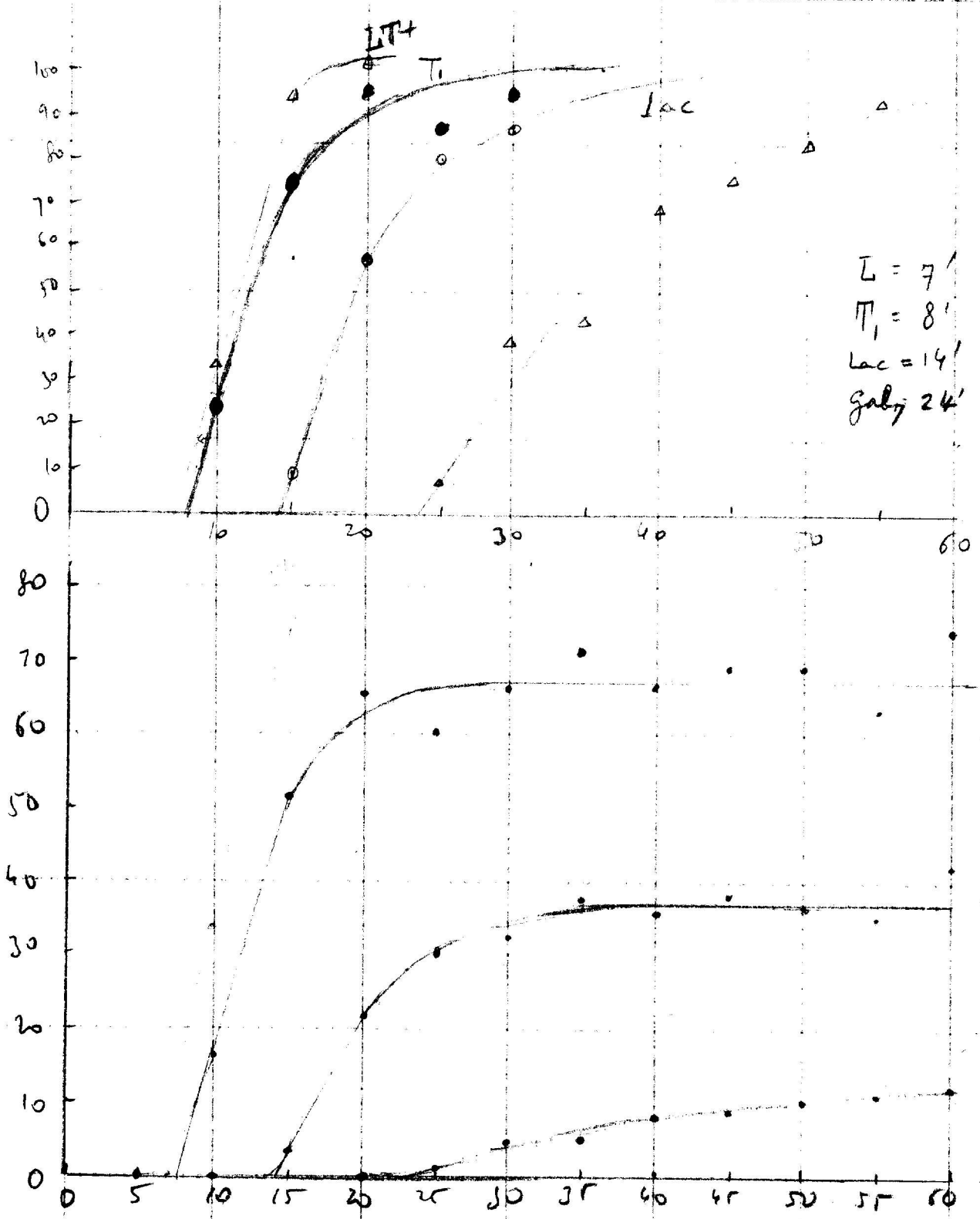


1401-2

DATE: REF:

1 time	2 Lac + first 50	3 Lac + next	4 Lac + total	5 Gal + first 50	6 Gal + next	7 Gal + total	8 T_1 first	9 T_1 next	10 T_1 total
0									
5									
10	0/50	0/12	0/62		0/12		6	4/12	10/62
15	1	6/142	7/192		0/142		23	76/142	99/192
20	16	20/92	32/142	0	0/88		32	59/88	91/138
25	20	28/110	48/160	0	1/108	1/108	32	63/108	95/158
30	16	18/56	34/106	3	2/57	5/107	37	33/56	70/106
35	18	19/49	37/99	3	2/49	5/99	37	33/49	70/99
40	19	33/95	52/145	3	9/95	12/145	33	63/95	96/145
45	20	18/50	38/100	3	6/50	9/100	33	36/50	69/100
50	20	12/38	32/88	7	2/38	9/88	35	25/37	50/87
55	21	16/56	37/106	4	8/57	12/107	32	35/56	67/106
60	21			6			37		

Time	% T_1	1-alleles Lac	Gal		% of asymptote T_1	Lac	Gal
0	1 -						
5	-						
10	16.1	0	0	10'	23.2	0	0
15	51.6	3.6	0		74.5	9.6	0
20	65.8	21.5	0	20'	95.0	57.5	0
25	60.1	30.0	0.93		86.5	80.2	7.7
30	66.0	32.1	4.67	30'	95.0	86.0	39.0
35	70.8	37.3	5.1			99.9	42.5
40	66.2	35.8	8.3				69.2
45	69.0	38.0	9.0				75.0
50	68.9	36.4	10.2				83.5
55	63.1	34.9	15.2				93
60	74.0	42.0	12				100
		114.4					
Asymp	69.5	37.4	12?				



Total data 1401/2

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19 May 26, 1958 REF: 1401/3

W3060, W3052, 1h cultures -
Spun, resusp. 4× & 2× resp. (♂ less turbid).

Mixture : 1 ml ♂ + 4 ml ♀.
After times : 10', 15', 20', 25', 30', 40'
sampled .2 ml and diluted in 10 ml $\overline{H_2O}$ (chilled).

Blended, and plated .05 and .05 1/10. (called 1, 2 resp.)

O' : Plate recomb. control, .04 ♂ 1/50 and .04 ♀ 1/50.
Also, dilutions 1/10 from such suspensions (Exp. 1, 2) -

Media : - D(B, Sm)
1 D(Prot L B, Sm)
2 D(Prot B, Sm).

Controls : .05 ml of dil 1/50 ♂, ♀ on media 1, 2.

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19 May 23rd, 1958 REF: 1401/5.

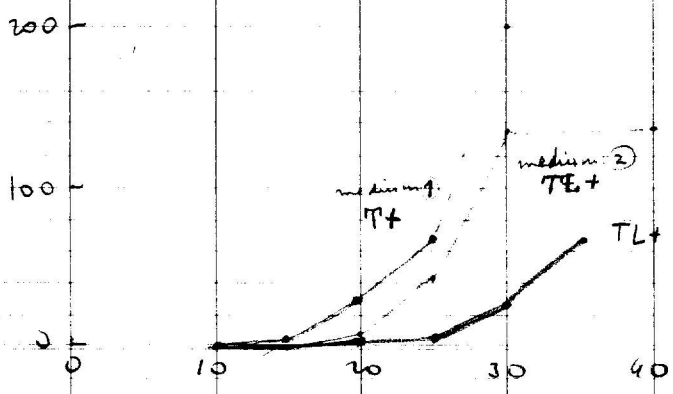
	Medium 0		Medium 1		Medium 2		
	dil 1	dil 2	dil 1	dil 2	dil 1	dil 2	dil 3
10'	0	0	1	0	0	0	
15'	0	0	5	0	1	0	
20'	3	0	31	4	5	~~3~~	
25'	6	1	~~67~~	9	~~47~~	5	
30'	28.	4.		21	134.	~~57~~.	
40'	66	9			130	11	1
	dil 3:						
0'	0	0	0	0	0	0	

Control, medium 1: 5 4 7 → 1 "

Media 0. D(B, fm)

1 : D(B, Prol Leu fm)

2 : D(B, Prol fm)



W 3052 is descendant from W 945

3064 W 583

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19

REF: 1401/3

	1	2	3	4	5	6	7	8	9	10
1	Medium (see)	Time	Gal^1	Lac^1	Ara$^1_2$					
2										
3										
4										
5	-	20'	0/4	1/4	4/4					
6	(TL Pro+)									
7		25'	0/8	4/8	8/8					
8										
9		30'	0/32	21/32	31/32					
0										
		40'	8/75	39/50	72/75					
1						L^1	P$_r$^{1}			
2										
3	1	15'	0/5	0/5	1/5	1/5				
4										
5	(T+)	20'	0/40	0/40	8/40	9/40				
6										
7		25'	0/87	3/87	51/87	40/87	6/87			
8										
9		30'	0/24	4/24	10/24	12/20	4/24			
0										
1	2	15'	0/1	0/1	1/1		0/1			
2										
3	(TL+)	20'	0/9	0/9	7/9		0/9			
4										
5		25	0/51	5/51	49/51		7/51			
6										
7		30'	0/50	14/50	48/50		18/50			
8										
9		40'	2/50	18/50	48/50		22/50			
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										

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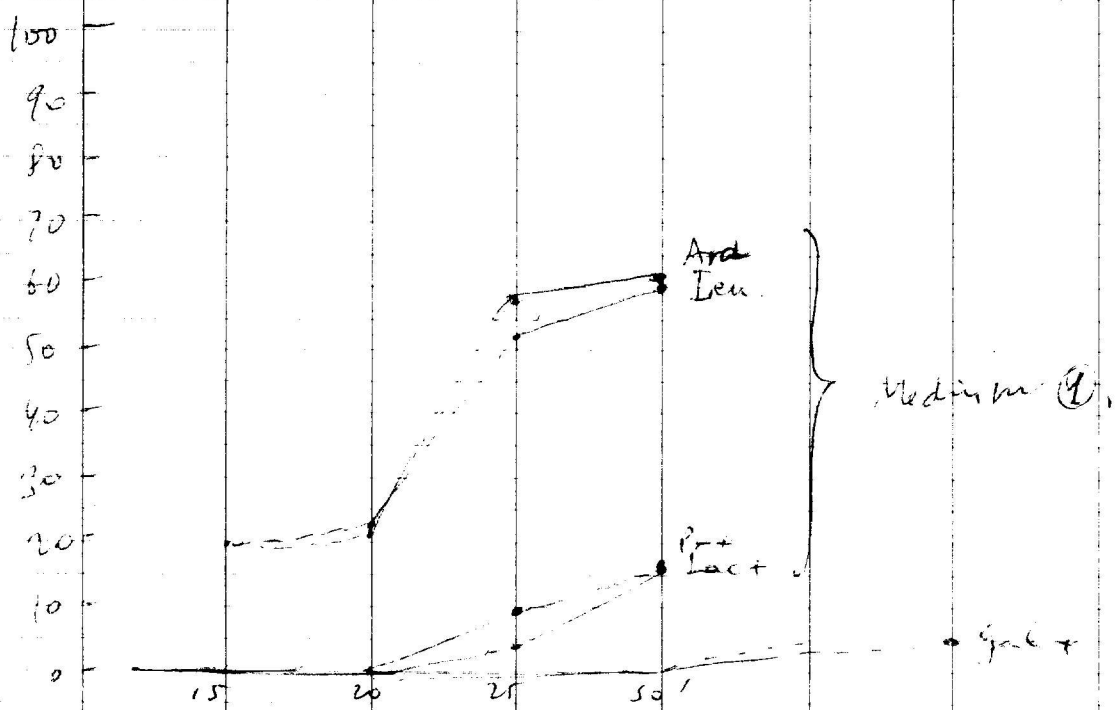
19

REF: 1401/3



F' = W3052

June 2, 1958 REF: 1401/4

Comparison between W3052, W3064.

ORC cultures of W 3060, W3064, W3052. Spun, resusp. at same conc.

A: 2 ml W3060, + 4 ml W3052
B: " " " W3064
C: " " + 2 ml W3052 + 2 ml W3064.

At 10', 20', 30', 40', 50', 60'
0.01 sample diluted in 10 ml chilled water, blended,
and: 10', 20', 30', 40', 50' → 0.05 plated on S Gal Sm Pool B,
30', 40', 50', 60' → 1/10 → 0.05 "

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REF: 1401/4

	A (all Ara+*) Gal+	Lac+	Pr+	B (all Ara−, #) Gal	Lac
10	–	–	–	–	–
20	0/50	0/50	6/50	0/50	0/50
30				0/50	5/50
40	0/50	20/50	23/50	0/50	11/50
50	2/50	19/50	23/50	0/50	9/50
60					

*except on Ara−

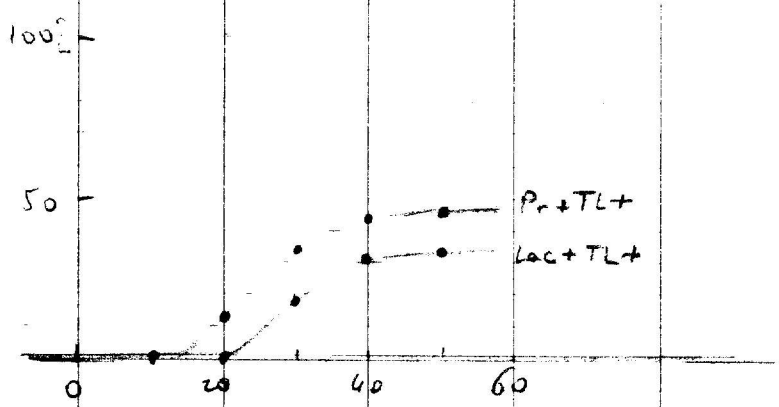
#except on Ara+

Plate counts

	A	B	C
	dil	dil	dil
			0
	252	112	82
	33	310 4	294 13
	353 47	108 7	111 21
	224 84	222 18	133 9
	80	9	14

C

	Ara+ Gal+	Lac+	Pr+	Ara− Gal+	Lac+	Ara+/Ara−
20	0/25	0/25	3/25	0/25	0/25	25/25
30	0/27	5/27	9/27	0/23	3/23	27/23
40	0/23	7/23	10/23	1/27	2/27	23/27
50	1/22	10/22	14/22	0/22	6/22	28/22



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19 June 2 REF: 1401/5

Hfr$_1$ and Hfr$_2$ timing x 3052.

♀ # 3052 T$_1^R$.

♂♂: 3936 (1895 Az^R), 3948 (3870 Az^R).

ORC, spun, resusp. in Penassay, 1 × conc ♂, ½ × conc ♀.

Mating mixtures: 1 ml ♂ : 9 ml ♀ (conc ratio 1:5).

Mating in flasks. Samples of 0.5 ml dil in 4.5 chilled water, blended, → A plated .05 on various media, B diluted 1/10 and plated. B dilutions only for times ≥ 15'.

Times: Hfr$_1$ cross: 0', 5', 10', 15', 20', 25', 30', 35', 40', 50'
Hfr$_2$ " : also 7½' and 13'.

Media: (all D(-))

For Hfr$_1$ media 1 Sm Mc B$_1$ L T
2 Sm Mc B$_1$
3 Sm Mc

For Hfr$_2$ media 4 Sm B$_1$ Prol Leu
5 Sm B$_1$ Prol
6 Sm B$_1$

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REF: 1401/5

	1	2	3	4	5	6	7	8	9	10
Temp	0	5	7½	10	13	15	20	25		30
1A	105	146		253		0	N 6.10³ *	(N 200 large 10³ small)		∞
1B						[100-200 small]?	[9 large 320 small]	[49 large N 500 small]		(53 large N 500 small)
2A	88	34		52		[70 large N 1000 small]	155	N 1000 large		N 1000 large
2B						63	13	85		139 large
3A	8	6		9		26	40	18		44
3B						5	2	5		6
4A	245	320	N 2000	N 10 000	N 10 000	N 10⁴ *	N 10⁴	t.m.t.c		∞
4B						N 800 *	N 2000 *	//		N 2000 large & small
5A	355	172	296	N 3500	N 8000	N 10⁴ *	N 10⁴	//		∞
5B						N 1000	N 1000	//		N 2000
6A	58	276	171	165	798	N 1300	N 6.10³ *	//		∞
6B						143	494	N 1200		N 2000

* large & small : small in great preponderance -
1A-20' : large are of numbers a large vol. in 2A 20'.

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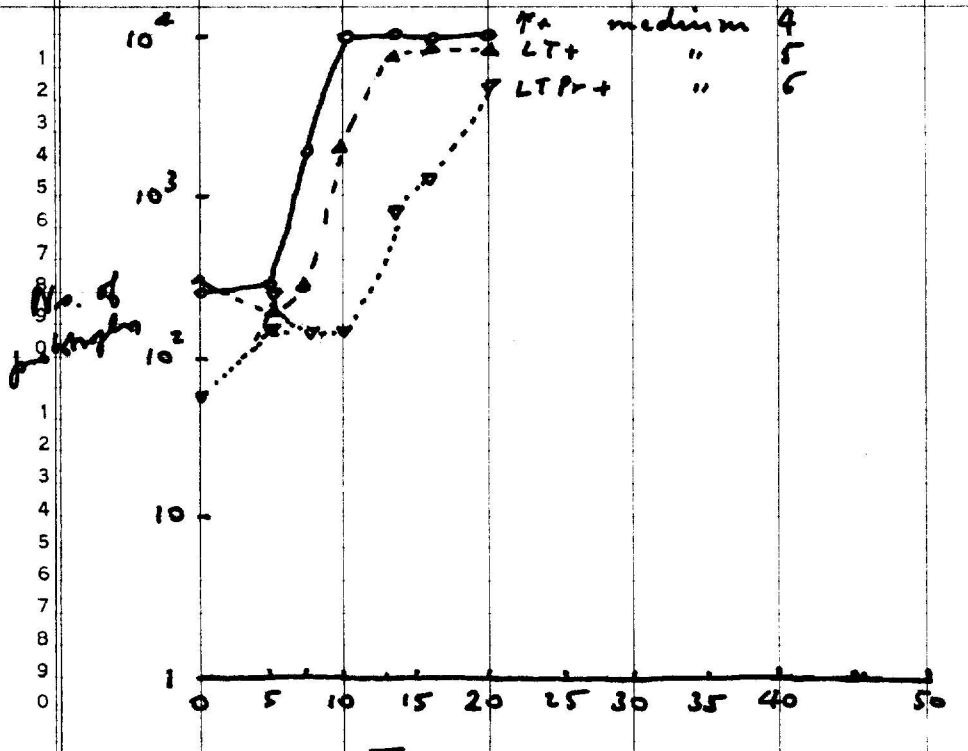
REF: 1401/5.

	1	2	3	4	5	6	7	8	9	10
	35'	40'	50'	control	0					
1A	∞	∞	∞		0,0					
1B	[large ~100 small ~500]	[large ~100 small ~150]	(large ~200 small ~)		-					
2A	∞	∞	∞		-					
2B	~600	~600	~600		-					
3A	79	231	~492		0					
3B	7	14	79		-					
4A	∞	∞	∞		0					
4B	~2000	~2000	~2000		-					
5A	60	∞	∞		0					
5B	~2000	~2000	~2000		-					
6A	∞	∞	∞		0					
6B	~2000	~2000	~2000		-					



Hfr_2

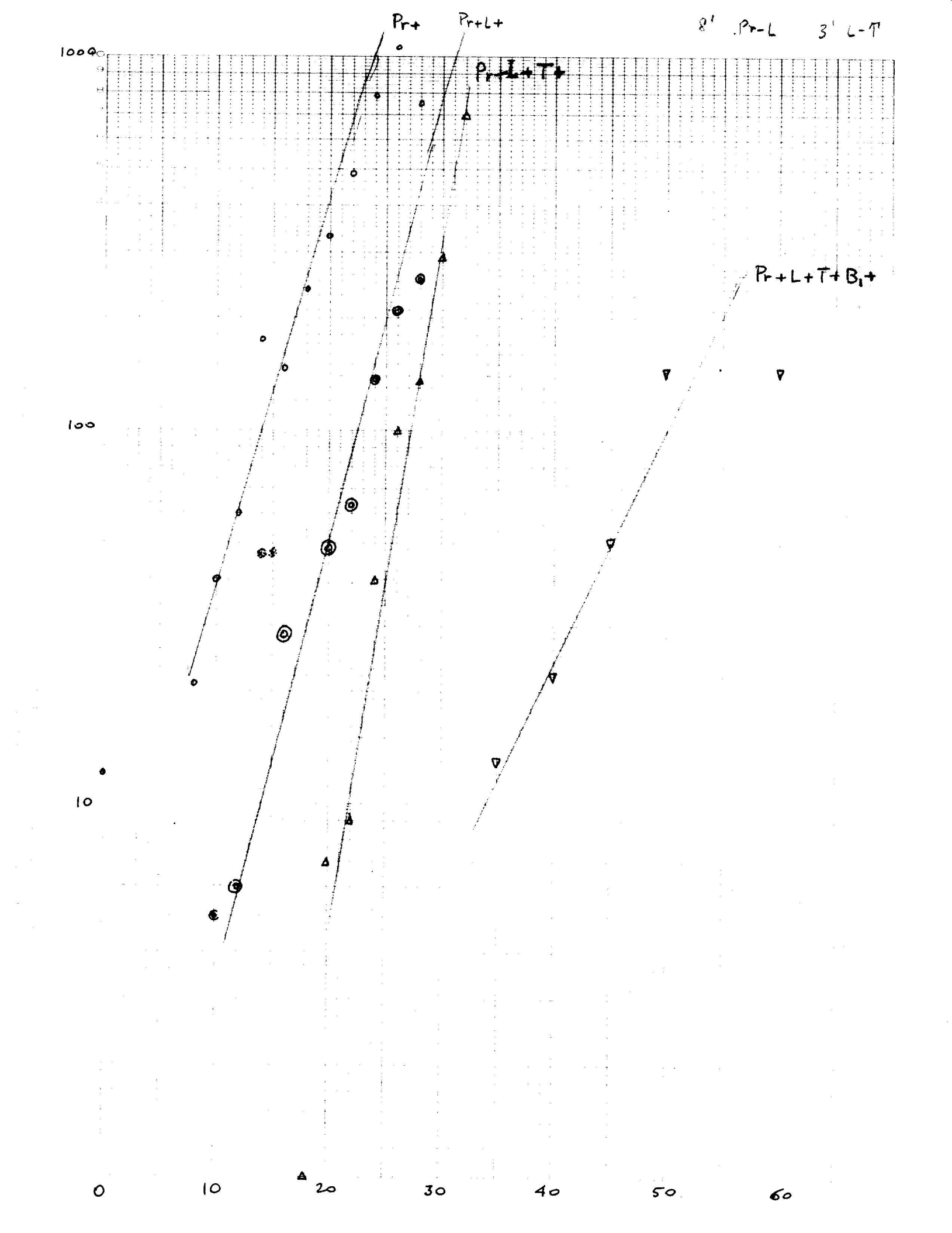
T-L : 2½ minutes 5'T 7½L

L-Pr : 5' minutes 12½Pr

Hfr_1 : medium 1 Entry of Pr between 10' and 20'
Repeat !:

medium 2 Entry of LT probably between 15 or 20 & 25'. But explore 10-30' again

medium 3 Entry of B_1 between 35' and 40'
test for Xyl Mch.


Pr+
Pr+L+
8' Pr-L
3' L-T
Pr+L+T+
Pr+L+T+B1+
1000
100
10
0
10
20
30
40
50
60

TIMED MATING, Hfr_1 and Hfr_2

ORC Cultures of W 3936 (Hfr_1), W 3948, (Hfr_2) W 3052.

Spun, resuspended in equal amount of Penassay, and mating mixtures prepared in flasks with 1.5 ml ♂ and 6 ml ♀ and 2 ml fresh broth. Samplings: 0.2 ml at every time, dilution in 9.9 ml chilled water, .04 spread on plated (A) and the same for dilution (B) of 1/10 for Hfr_1 and 1/50 for Hfr_2.

Media:									
	1.	D-O	+	Sm	B_1	M	L	T	
	2.			Sm	B_1	M		T	for Hfr_1
	3.			Sm	B_1	M			
	4.			Sm		M			
	6.	B Lac		Sm					
	5.	D-O	+	Sm	B_1		L	Prol	for Hfr_2
	6.		+	Sm	B_1			Prol	
	7.		+	Sm	B_1				

DATE: Sat. June 28, 1958 REF: 1401/6

TIMED MATING, Hfr_1 × Hfr_2.

ORC Cultures of W 3936 (Hfr_1), W 3948, (Hfr_2) W 3052. Spun, resuspended in equal amount of Penallay SS, and mating mixtures prepared in flasks with 1.5 ml ♂ + 5/5 ml ♀ + 2 ml fresh broth. Samplings: 0.2 ml at every time, dilution in 9.9 ml chilled water, .04 spread on plates (A) and the same for dilution (B) of 1/10 for Hfr_1 and 1/50 for Hfr_2.

		M	L	T	
Media:	1. D-O + Sm B_1	Meth	Leu	Threo	sel for Lac for Hfr_1
	2. Sm B_1	Meth		Threo	
	3. Sm B_1	Meth			
	4. Sm	Meth			
	0. B Lac Sm			P	
	5 D-O + Sm B_1		Leu	Pro	for Hfr_2.
	6. + Sm B_1			Pro	
	7. + Sm B_1				

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COUNTS

(space for counts)

1401/6

~~Medium 1~~ (1) sm B, MLT Hfr, each column: +, −, ±

July 12, 19 58 REF:

1 TIME	2 Ara	3 Ti	4 Az	5 MTL	6 (M) MTB	7 ML B,	8 TL B,	9 MTL B,	10 Σ
~~1~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~22, 85, 6~~	~~[illegible]~~	~~144, 0, 19~~	~~[illegible]~~	~~183~~
16	13, 76, 0	76, 10, 3	13, 76, 0	1, 79, 9	9, 79, 1	9, 80, 0	14, 0, 75	10, 0, 79	89
18	15, 52, 0	45, 16, 6	15, 51, 1	1, 54, 12	14, 53, 0	12, 54, 1	15, 0, 52	15, 0, 52	67
20	6, 76, 0	66, 6, 10	12, 69, 1	6, 76, 0	6, 76, 0	6, 76, 0	6, 0, 76	6, 76, 0	82
22	6, 54, 0	48, 11, 1	6, 54, 0	0, 54, 6	6, 54, 0	6, 54, 0	6, 0, 54	5, 0, 55	60
24	6, 59, 1	49, 11, 6	12, 54, 0	1, 63, 2	4, 56, 6	3, 63, 0	3, 0, 63	3, 0, 63	66
26	12, 84, 0	73, 16, 7	17, 79, 0	0, 90, 6	8, 84, 4	6, 90, 0	5, 0, 91	5, 0, 91	96
28	5, 65, 0	55, 8, 7	8, 61, 1	0, 67, 3	4, 64, 2	3, 67, 0	2, 0, 68	3, 0, 67	70

~~Medium 2~~ sm B, MT Hfr,

	Ara	Ti	Az	MB1	MB. T	Σ
20	42, 5, 0	42, 5, 0	43, 3, 40	25, 22, 0	47, 0, 0	47
22	43, 17, 0	3, 6, 51	51, 8, 1	18, 42, 0	60, 0, 0	60
24	71, 25, 4	6, 0, 94	98, 1, 1	37, 63, 0	100, 0, 0	100
26	92, 15, 0	13, 2, 92	104, 3, 0	48, 59, 0	107, 0, 0	107
28	80, 15, 5	4, 96, 0	99, 1, 0	58, 42, 0	100, 0, 0	100

~~Medium 3~~ sm B, M Hfr,

	Xyl	Mal	B,	M	MB,	Σ
0	0, 3, 0	0, 3, 0	3, 0, 0	1, 2, 0	3, 0, 0	3
10	0, 1, 0	0, 1, 0	1, 0, 0	0, 1, 0	1, 0, 0	1
14	0, 9, 0	0, 9, 0	7, 2, 0	3, 6, 0	9, 0, 0	9
16	0, 1, 0	0, 1, 0	1, 0, 0	0, 1, 0	1, 0, 0	1
18	0, 1, 0	0, 1, 0	1, 0, 0	0, 1, 0	1, 0, 0	1
20	0, 8, 0	0, 8, 0	8, 0, 0	0, 8, 0	8, 0, 0	8
22	0, 13, 0	0, 13, 0	11, 2, 0	0, 13, 0	13, 0, 0	13
24	1, 42, 0	0, 43, 0	41, 2, 0	2, 41, 0	43, 0, 0	43
26	0, 100, 0	0, 100, 0	100, 0, 0	1, 99, 0	100, 0, 0	100
28	0, 99, 0	0, 99, 0	99, 0, 0	0, 99, 0	99, 0, 0	99
30	0, 100, 0	0, 100, 0	100, 0, 0	0, 100, 0	100, 0, 0	100
35	0, 70, 0	0, 70, 0	70, 0, 0	0, 70, 0	70, 0, 0	70

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COUNTS

Each Column: +, −, ±

140116

July 12 1958

REF:

1	2	3 Medium 4	4	5 sm M	6	Hfr 1	8	9	10
	Ara	Gal	Lac	T1	Az	M	−(Do)	Σ	
20	2, 0, 0	0, 2, 0	1, 1, 0	0, 2, 0	2, 0, 0	2, 0, 0	1, 1, 0	2	
30	2, 0, 0	0, 2, 0	2, 0, 0	0, 2, 0	1, 0, 1	2, 0, 0	0, 2, 0	2	
35	15, 0, 0	0, 15, 0	13, 2, 0	0, 15, 0	15, 0, 0	15, 0, 0	9, 6, 0	15	
40	25, 0, 0	~~23, 2, 0~~ 0, 25, 0	~~23, 2, 0~~ 23, 2, 0	~~0, 25, 0~~ 0, 25, 0	25, 0, 0	25, 0, 0	17, 8, 0	25	
45	47, 0, 0	0, 47, 0	40, 6, 1	0, 47, 0	47, 0, 0	47, 0, 0	31, 16, 0	47	
50	100, 0, 0	0, 100, 0	93, 6, 1	3, 97, 0	100, 0, 0	100, 0, 0	36, 61, 3	100	
60	100, 0, 0	0, 100, 0	89, 10, 1	1, 99, 0	100, 0, 0	100, 0, 0	41, 56, 3	100	
		~~Medium~~ 5		sm B, LP		Hfr 2			
	Gal	Ara	T1	Az	L B1	Pro B1	L P B1	Σ	
0	0, 1, 0	0, 1, 0	1, 0, 0	0, 1, 0	0, 1, 0	0, 1, 0	1, 0, 0	1	
4	2, 5, 0	3, 4, 0	7, 0, 0	3, 4, 0	2, 5, 0	3, 4, 0	7, 0, 0	7	
5	0, 16, 0	9, 7, 0	16, 0, 0	6, 10, 0	4, 12, 0	7, 9, 0	16, 0, 0	16	
7	0, 10, 0	2, 8, 0	10, 0, 0	2, 8, 0	2, 8, 0	2, 8, 0	10, 0, 0	10	
8	0, 6, 0	1, 5, 0	6, 0, 0	1, 5, 0	0, 6, 0	1, 5, 0	6, 0, 0	6	
9	0, 3, 0	3, 0, 0	3, 0, 0	3, 0, 0	3, 0, 0	3, 0, 0	3, 0, 0	3	
10	0, 82, 0	7, 75, 0	82, 0, 0	3, 79, 0	2, 80, 0	4, 78, 0	82, 0, 0	82	
11	0, 7, 0	5, 2, 0	7, 0, 0	4, 3, 0	0, 7, 0	5, 2, 0	7, 0, 0	7	
12	0, 99, 0	14, 84, 1	99, 0, 0	5, 94, 0	0, 99, 0	17, 82, 0	49, 0, 0	99	
13	0, 98, 0	26, 72, 0	98, 0, 0	15, 83, 0	0, 98, 0	35, 63, 0	98, 0, 0	98	
14	0, 20, 0	13, 7, 0	20, 0, 0	8, 12, 0	6, 14, 0	11, 9, 0	19, 1, 0	20	

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GENETICS

COUNTS

1401/6

Each Column +, −, ±

July 12 19 58 REF:

	1	2	3	4	5	6	7	8	9	10
				Medium 6		sm B, P		1/fr 2		
1		Gal	Lac	T1	Az	B1	B1 Rel	Σ		
2										
3	0	0, 1, 0	0, 1, 0	1, 0, 0	1, 0, 0	0, 1, 0	1, 0, 0	1		
4										
5	5	0, 2, 1	0, 2, 1	3, 0, 0	2, 1, 0	1, 3, 0	3, 0, 0	3		
6										
7	6	0, 1, 0	0, 1, 0	0, 0, 1	1, 0, 0	1, 0, 0	1, 0, 0	1		
8										
9	7	0, 8, 0	3, 5, 0	3, 2, 3	6, 2, 0	5, 3, 0	8, 0, 0	8		
0										
	8	0, 2, 0	0, 2, 0	1, 0, 1	2, 0, 0	0, 2, 0	2, 0, 0	2		
1										
2	9	0, 10, 0	9, 1, 0	0, 2, 8	10, 0, 0	9, 1, 0	10, 0, 0	10		
3										
4	10	0, 8, 0	0, 7, 1	7, 1, 0	3, 5, 0	1, 7, 0	8, 0, 0	8		
5										
6	11	0, 2, 0	2, 0, 0	0, 0, 2	2, 0, 0	2, 0, 0	2, 0, 0	2		
7										
8	12	0, 67, 0	1, 66, 0	56, 6, 4	37, 29, 1	2, 65, 0	67, 0, 0	67		
9										
0	14	0, 30, 0	11, 19, 0	15, 6, 9	27, 3, 0	11, 19, 0	30, 0, 0	30		
1	16	0, 99, 0	1, 98, 0	68, 21, 10	72, 27, 0	6, 93, 0	99, 0, 0	99		
2										
3	18	0, 6, 0	0, 6, 0	5, 1, 0	3, 2, 1	0, 6, 0	6, 0, 0	6		
4										
5										
6				Medium 7		sm B1		1/fr 2		
7										
8		Gal	Lac	T1	Az	Σ				
9										
0	0	1, 0, 0	1, 0, 0	1, 0, 0	1, 0, 0	1				
	10	1, 0, 0	1, 0, 0	0, 0, ±	1, 0, 0	1				
1	12	0, 1, 0	0, 1, 0	0, 0, 1	1, 0, 0	1				
2	14	0, 5, 0	5, 0, 0	4, 1, 0	5, 0, 0	5				
3	16	0, 30, 0	8, 22, 0	0, 2, 28	30, 0, 0	30				
4										
5	18	0, 28, 0	7, 21, 0	5, 1, 22	28, 0, 0	28				
6										
7	20	0, 81, 0	23, 57, 1	3, 49, 29	81, 0, 0	81				
8										
9	22	0, 101, 0	41, 59, 1	7, 54, 40	101, 0, 0	101				
0										
	24	0, 11, 0	5, 6, 0	0, 7, 4	10, 1, 0	11				
1										
2	26	0, 100, 0	57, 43, 0	7, 17, 76	100, 0, 0	100				
3										
4	30	0, 8, 0	4, 4, 0	0, 4, 4	8, 0, 0	8				
5										
6										
7										
8										
9										
0										

DATE: March 24 REF: OPTIM. PULSE

13.15 : Broth cultures 3060, 3064 from water bath, saturated since 2 hrs, inoculated into warmed Penassay 0.75 + 7.5 ml → girello.

14.35 : 0.5 ml. # 3060 } → prewarmed, → girello and also
5 ml # 3064 } samples from parental cultures, iced.
5 ml broth

At time:	0'			2'	5'	10'	20'	60'
Dilution with warmed broth (with a 1 ml. pipette to prevent shearing)	0.2 + 0.8 (1/5)	0.1 + 0.9 (1/10)	0.1 + 9.9 (1/100)	0.1 + 9.9 (1/100)	0.1 + 9.9 (1/100)	0.1 + 9.9 (1/100)	0.1 + 9.9 (1/100)	0.1 + 9.9 (1/100)
Incubation Time in rotator	60'	60'	60'	58'	55'	50'	40'	0'
Dilution previous to plating, with iced broth	(1/20) 0.5 + 9.5	(1/10) 1.0 + 9.0						
Amount plated on min St B_1	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02	0.1 / 0.02

Iced parental broths :

#3064 → broth → form 1/20 → .025 min St B_1
broth 1/100 → water 1/100 → water 1/10 → .05 B Lac : 341 ; same

#3060 → broth 1/100 → broth 1/10 → water 1/100 → .05 B Lac. : 17 ; 19
broth 1/100 → form 1/20 → .025 min St B_1
broth 1/100 → .025 / .05 min St B_1

DATE: March 28, 1957 - Summary REF: 1402 : PULSE

TIME	Gal+/tot. 2		Lac+/tot (including W) 4		T1+/tot. 6		7	8	9	10
0'	4/31	12.9	4/31 (9/31)	29.0	21/31	68.0				
2'	5/57	8.8	21/57 (28/57)	49.2	39/57	68.4				
5'	12/81	14.7	40/81 (42/81)	52.0	68/81	84.0				
10'	13/79	16.4	33/79 (36/79)	45.5	61/79	77.2				
20'	11/65	16.9	31/65 (31/65)	47.7	46/65	70.8				
60'	5/50	10.0	15/50 (18/50)	36.0	37/50	74.0				
0' 1/5	5/70	7.2	15/69 (20/69)	21.7	48/70	68.6				
0' 1/20	6/52	11.5	19/52 (19/52)	36.5	36/52	69.2				

Conclusions. 5'-10' Pulse is an efficient procedure for raising No. of recombinants.

Dilution of 1/100 at least after pulse if further damage must be avoided. Segregation ratios unaffected, provided dilution is carried out with 1 ml. pipettes. 0.1 ml. pipettes untrusted. Interruption on simple dilution in Exp. 1401 probably due to chilling, or plating.

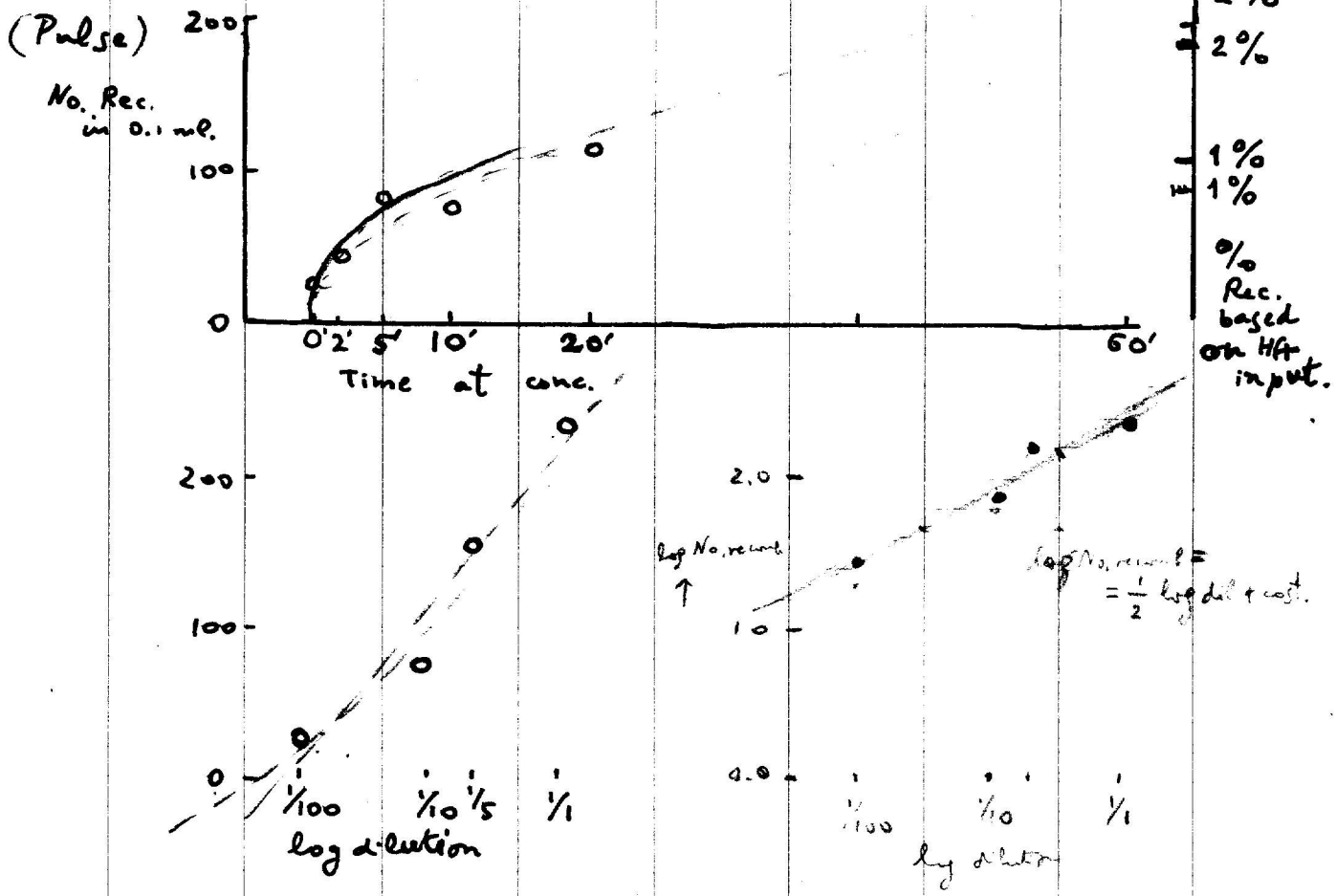
Experiment 1403, not successful because of selection of F+ isolate from Hfr, must be repeated

DATE: March 24. REF: PULSE.

Plate counts.

Amount plated	Time	dilution 1/100 0'	2'	5'	10'	20'	60'	Time 0' dil. 1/100	1/10	1/5	1/1
0.1		28 +	47	85	77	118	236 ‡	28 +	74	167	236 ‡
0.02		2 +	10	15	13	25	31 ‡	2 +	11	23	31 ‡

+, ‡ : same values, repeated



MICROSC. COUNTS OF PARENTAL BROTHS:

3060 : 230×10^6/ml

3064 : 1.4×10^9/ml

INPUTS per ml : 3060 $11.5 \cdot 10^6$/ml Ratio Hfr/F- = 1:50

3064 $700 \cdot 10^6$/ml

REF: 1402-2

DATE: 22/4/58.

6 7 8 9 10

- 3^h (1+10) to approx. saturation.
for phototrophy & Hfr-ness.
20 x respectively:

ml in 50 ml flask in water bath
0.05 to 50 ml prewarmed broth.
n platings (Hfr : F- = 1:2)
me. susp. dil 1:3; exp. repeated
ove.

conc. suspensions dil. 1:33; exp.
ctly as above.

and kept at 0° until used.

broth } 0.1 & 0.02 ml
broth } with StB_1.

---

recombination: 1x suspensions
h and plated 0.05 + 0.05

ifficult by smearing (wet plates used)
counts: 1 colony.

0,1	0,02 ml plated
250	44
400	63
1200	148

Note: counts unreliable

1 2 3 4 5

3060, 3064, cultures rotated
New 3060 isolate tested
Concentrated 10 x, and

10 x Exp : 0.2 ml + 0.2
for 1', then
30' inc. the

3 x Exp 10 x & 20 x
exactly as ab

1 x Exp. 3 x & 6 x
repeated exp

All 1:1000 dilutions chilled

10 x : 1/10 in
3 x : 1/3.3 in
1 x plated

For estimation of plate
diluted 1:1000 in brot

Plate counts: made
Control of plate recomb

Conc 1 x
3 x
10 x

U.W.
MICROBIAL
GENETICS

19

REF:

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
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40										
10 1										
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