Summary of Pine Seedling Counts

Number of Seedlings — Modoc Scarification

Date of Observation		Scarified No.	Not Scarified No.	Total No.
June 1, 1941				
	Total	1912	744	2656
	Percent	72.0	28.0	100.0
October 14, 1941				
	Total	1014	425	1439
	Percent	70.5	29.5	100.0
May 13, 1942				
	Total	903	509	1412
	Percent	64.0	36.0	100.0
October 18, 1942				
	Total	676	389	1062
	Percent	63.4	36.6	100.0
November 19, 1943				
	Total	372	180	452
	Percent			
May 1944		214	91	305
	Percent			

Summary of Pine Seedling Counts
Number of Seedlings
Modoc Scarification

Location of Seedlings	Scarified No.	Not Scarified No.	Total No.		%
June 1, 1941					
Disturbed Ground (45% of plots)	1695	—	1695	64	63.8
Nondisturbed Ground (55%)	208	736	944	35	35.6
Rodent Caches	9	8	17	1	.6
Total	1912	744	2656		
Percent	72.0	28.0		10	100.0
October 14, 1941					
Disturbed Ground	799	—	799		55.5
Nondisturbed Ground	209	419	628		43.7
Rodent Caches	6	6	12		.8
Total	1014	425	1439		
Percent	70.5	29.5			100.0
May 13, 1942					
Disturbed Ground	517	—	517		36.6
Nondisturbed Ground	386	506	892		63.2
Rodent Caches	—	3	3		.2
Total	903	509	1412		
Percent	64.0	36.0			100.0
October 18, 1942					
Disturbed Ground	337	—	337		31.7
Nondisturbed Ground	336	384	720		67.8
Rodent Caches	—	5	5		.5
Total	673	389	1062		
Percent	63.4	36.6			100.0

Survival of Pine
Modoc May 1944

May 30/44
Hormay

Plot	Soil Scarified Dist	Soil Scarified Undist	Soil check Undist	Cones Needles Scarified Dist	Cones Needles Scarified Undist	Cones Needles check Undist	Cp Scarified Dist	Cp Scarified Undist	Cp check Undist	Total
1	–	–	–	–	–	–	–	–	–	
2	1	–	–	–	–	–	–	–	–	1
3	1	–	–	–	–	–	–	–	–	1
4	22	–	–	–	–	–	5	95	22	144
5	30	3	7	–	–	–	1	43	41	125
6	6	1	1	1		1	2	4	18	33
Total	60	3	8	1	0	1	8	142	81	304

Treatment	Soil or in between	Needles & Cones	Cp.	
Scarified				
Dist.	60	1	8	69
Undist	3	0	142	145
Not scarified check	8	1	81	90
	71	2	231	304
	23	1	76%	

372
180
452

Survival Pine
May 1944

May 30/44
A Hormay.

Plot	Scarified Disturbed Soil	Cones Needles	Cp	Scar and not scar. Not Disturbed Soil	Cones N	Cp.	Scar Not dist. S	Cp
1	—	—	—	—	—	—		
2	1	—	—	—	—	—		
3	1	—	—	—	—	—		
4	22	—	5	—	—	117		95
5	30	—	1	10	—	84	3	43
6	6	1	2	1	1	22		4
Total	60	1	8	11	1	223	3	142
	87%	1%	12%	5%	T	95%		
		69 ck.			235			
					69			
					304	check		

87
69/600
552
480

95
235/2230
2115
1150

69
145
214
90
304 ck.

76
304/231
2128
1820

117
95
22

122
32
154

44
49
91
144

73
88
142
303

Pine Summary II

May 29/44
A Hormay

Plot	6/41	10/41	Scarified 5/42	Scarified 10/42	disturbed 11/43	disturbed 5/44	Approximate proportion of plot area cultivated.
1	174	71	28	18	2	—	40
2	75	7	9	5	4	1	35
3	92	72	27	10	5	1	60
4	225	191	149	121	61	27	50
5	733	311	155	143	75	31	50
6	396	147	149	42	15	9	35
Total	1695	799	517	339	162	69	6 | 270
Caches	9	6	—	—	—	—	45% cultivated
GT	1704	805	517	339	162	69	40%

Scarified (not disturbed)

1	42	10	2	1	—	—	
2	10	6	—	1	1	—	
3	1	5	2	—	—	—	
4	54	104	252	228	154	95	
5	58	63	85	83	50	46	
6	43	21	45	24	5	(4)	
Total	208	209	386	337	210	145	no caches.
GT	1912	1014	903	676	372	214	

Not scarified (not disturbed) check.

1	32	7	10	9	4	—	
2	23	3	5	3	2	—	146
3	55	27	35	13	1	—	91
4	250	158	208	142	46	22	237
5	210	171	174	167	99	48	
6	166	53	74	50	28	20	
Total	736	419	506	384	180	90	
Caches	8	6	3	5	—	1	
GT	744	425	509	389	180	91	12%

6

Pine Summary I

May 29/44
A Hormay

		D	ND	D	ND	D	ND	D	ND	D	ND	D	ND	
		6/41		10/41		5/42		10/42		11/43		5/44		
Plot 1	Scarified													
	A	139	38	62	10	75	2	17	1	1	0	0	0	
	B.	35	4	9		3		1		1		–		
		174	42	71	10	78	2	18	1	2	–	–	–	
		216		81		30		19		2		0		
	Not scarified	carries 3		1										
		219		82										
	A		24		4		7		7		3		–	
	B.		8		3		3		2		1		–	
			32		7		10		9		4		–	
Plot 2	Scarified		1 33				11							
	A	32	1	2	1	–	2	1	2	1	1		–	
	B	43	9	5	5	7	–	3	–	2	–	–	–	
		75	10	7	6	9	–	5	1	4	1	1	–	
		85		13		9		6 (3)		5		1		O +3
	Not scarified	1 86												
	A		5		1		1		1		1		–	
	B		18		2		4		2		1		–	
			23		3		5		3		2		–	
Plot 3	Scarified	3 26		3 5										
	A	48	1	33	1	11	–	4	–	1	–	–	–	
	B	44	–	39	4	16	2	6	–	4	–	1	–	
		92	1	72	5	27	2	10	–	5	–	1	–	
		93		77		29		10		5		1		
	Not scarified													
	A		10		10		14		9		1		–	
	B		45		17		21		4		–		–	
			55		27		35		13		1		–	
Plot 4	Scarified													
	A	98	24	86	58	72	124	54	109	33	80	9	39	
	B	177	30	105	46	77	128	67	119	28	74	18	56	
		275	54	191	104	149	252	121	228	61	154	27	95	
		279		295		401		349		215		122		O -7
	Not scarified	280		296										
	A		105		46		58		34		18		4	
	B		145		112		150		108		28		18	
			250		158		208		142		46		22	
									143					

Pine Summary I

			D	ND	D	ND	D	ND	D	ND	D	ND	D	ND	
Plot 5	Scarified		6/41		10/41		5/42		10/42		11/43		5/44		
		A	446	34	160	50	94	55	90	51	47	33	22	29	
		B	287	24	151	13	61	30	53	32	28	17	9	17	
			733	58	311	63	155	85	143	83	75	50 (105)	31	46	
			791		374		240		226		175		77		0+28
			793		376										
	Not scarified														
		A	93		72		85		75		32		17		
		B	117		99		89		92		67		31		
			210		171		174		167		99 (94)		48		0+5
			214		172										
Plot 6	Scarified														
		A	159	12	62	5	82	13	24	15	11	-	6	-	
		B	237	31	85	16	67	32	48	9	4	5	3	4	
			396	43	147	21	149	45	42	24	15	5	9	4	
			439		168		194		66		20 (16)		13		0+5
			441		170										
	Not scarified														
		A	118		32		41		28		16		11		
		B	48		21		33		22		12		10		
			166		53		74		50	(20)	28		21		0+8
			118		36		76		52						

Bitterbrush Summary

May 30, 1944

Scarified disturbed

Plot		6/41	10/41	5/42	10/42	11/43	5/44
1		82	25	18	22	17	19
2		72	10	29	25	23	19
3		694	308	158	123	87	69
Total		848	343	205	170	127	107
Caches	1	4	—	—	1	1	2
	2	12	7	4	2	4	4
	3	6	6	7	9	—	6
		22	13	11	12	5	12

Scarified (not disturbed)

1	20	1	9	5	4	3
2	19	2	1	—	—	—
3	38	15	19	2	—	—
Total	77	18	29	7	4	3

Not scarified (check plots)

1	54	1	12	9	5	5
2	28	4	10	3	—	2
3	20	—	4	1	—	—
	102	5	26	13	5	7

Caches						
1	6	1	5	5	1	1
2	4	1	1	1	1	2
3	19	14	13	9	9	5
	29	16	19	15	11	8

Scarified D	848	343	205	170	127	107
Scar ND	77	18	29	7	4	3
Not Scari	102 (79)	5 (73)	26 (55)	13 (70)	5 (9)	7 (10)
Caches Scar	22	13	10	12	5	12
" & Scar	29 (51)	16 (29)	19 (30)	15 (27)	11 (16)	8 (20)
	1078	395	290	207	152	137 ✓

13
1078 | 11370
1078
2940

13
848 | 11070
848
2220

15
179 | 1000
179
820

34
51 | 200
153
470

Bitterbrush

May 30 1944
A. Hormay

Plot No 3

Scarified A-158.4

Chain No	Disturbed 1942 D	C	1943 D	C	1944 D	C
7	—		—		—	
6	21	3 2	15		8	5 2
5	18		10		9	
4	1		2		1	
3	1		1		2	
2	6		2		1	
1	3		1			1
	50	2	33		21	3
	52		33		24	

B 217.8

	D	C	D	C	D	C
1	4		3		3	
2	4	5 2	3		2	
3	17	8 2	14		12	1
4	5		2		3	1
5	1		3		2	
6	20	5	15		12	2
7	22	1	14		14	
	73	6	54		48	3
	79		54		51	

A Not scarified

1	1		—		—	
2						
3						
4		1				
5		1				
6				2		1
7				1		—
	1	2		3		1
	3		3		1	
	50	2	33		21	3
	73	6	54		48	3
	123	~~8~~	87		69	6

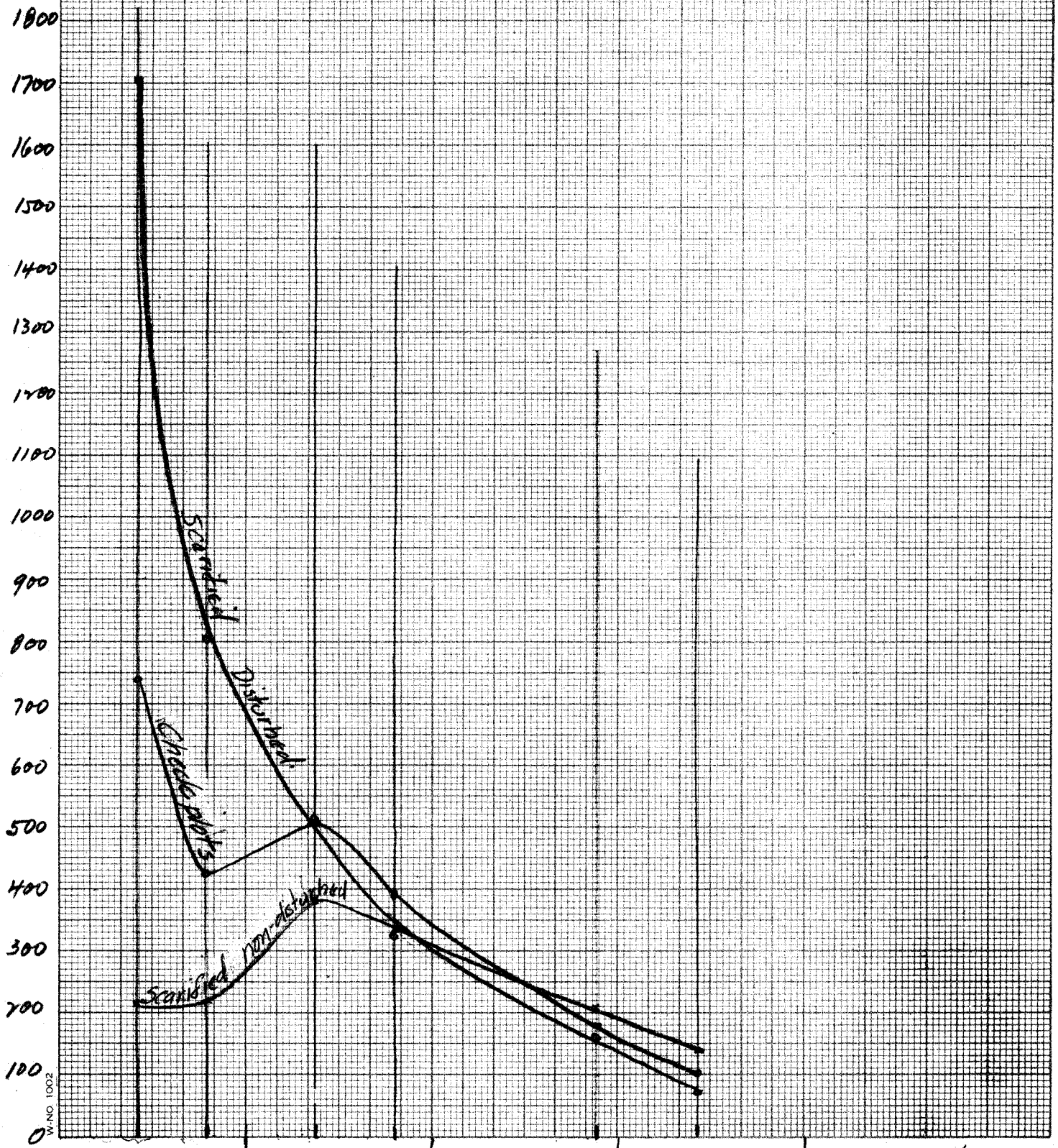
4 inches

B

7						
6						
5	14		10		10	
4	2		2		2	
3	00 00		00 00		1	2
2						
1						
	6		6		4	
	6		6		4	
	2		3		1	
	8		9		5	

Pine

Survival of pine seedlings
on Modoc scarification
areas



W-NO. 1002

A. Hormay
June 1, 1944

No of trees 6" or more in diameter within two chains of plot

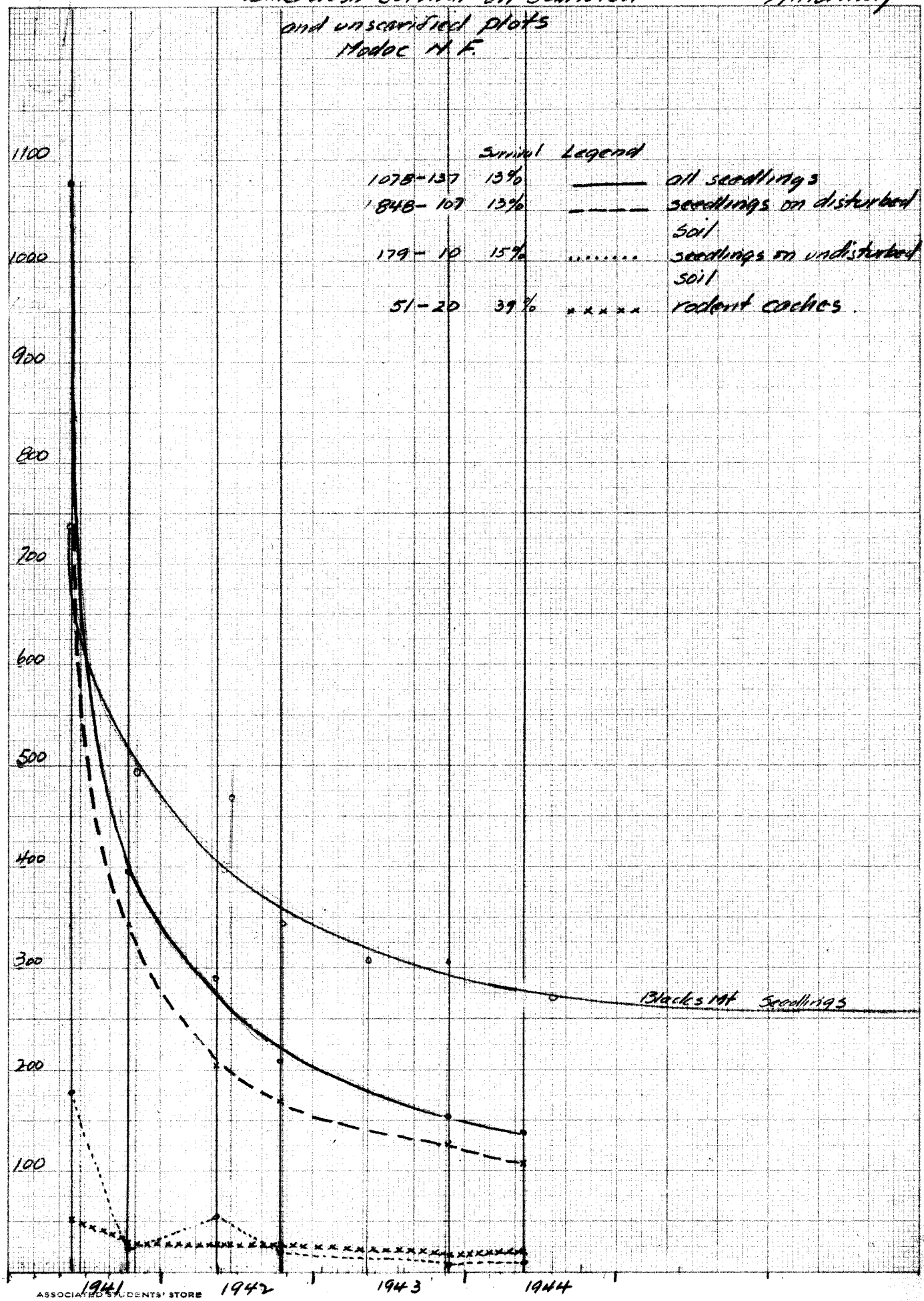
June 9/44
Attormay

Plot No		6-11	12-17	18-23	24-29	30-35	36-41	42-47	48-53	Total Trees.
		Diameter classes inches								
1	H & B.	~~||||~~ ~~||||~~	~~||||~~ ~~||||~~ ~~||||~~	~~||||~~ ~~||||~~	~~||||~~ ~~||||~~	||	|||			
	Scarified	~~||||~~		~~||||~~ ||	|||						
		(16)	(22)	(13)	(11)	(2)	(3)			67
	Check									

July 16/44

Bitterbrush survival on scarified and unscarified plots Modoc N.F.

A. Hormay



ASSOCIATED STUDENTS' STORE
UNIVERSITY OF CALIFORNIA

Summary - P4
Modoc Scarification

A. Hormay

	June '41	Oct '41	May '42	Oct '42	Nov '43	May '44
Scarified disturbed	848	343	205	170	177	107
%	100	40	24	20	15	13
Scarified not disturbed / Not Scarified	179	73	55	20	9	10
%	100	13	31	11	5	6
Cachos Scarified	51	29	30	27	16	20
" not scarified						
%	100	56	59	53	31	39

$\frac{1}{848} = .11792$

$\frac{1}{179} = .55866$

$\frac{1}{51} = .19607$

Modoc Sanitation Pine and Pt

Dominant Groundcover

Plot No 1 (For Badger Well)

Scarified A-16.5

Chain No	Pine Oct 1942 D	C	ND	Nov 29 1943 D	C	ND	May 27 1944 D	C	ND	Bitterbrush Oct 1942 D	C	ND	Nov 29 1943 D	C	ND	May 27 1944 D	C	ND
1	2	0		0	0		0	0		0	0		0	0		0	0	
2	5	0		1	0		0	0		1	0		0	0		0	0	
3	1	0		0	0		0	0		2	1		2	1		3	(2)	1
4	4	1		0	0		0	0		1	0		2	0		2	0	
5	1	0		0	0		0	0		3	1		0	1		1	0	
6	3	0		0	0		0	0		3	0		3	0		3	0	
7	1	0		0	0		0	0		0	1		0	0		0	0	
8	0	0		0	0		0	0		0	0		0	0		0	0	
Total	17	1		1	0		0	0		10	3		6	2		9	1	
	(18)			(1)			(0)			(14)			(8)			(11)		

Scarified B -706.5

8										0	0		0	0		0	0	
7										0	(2)		0	1	(2)	0	(2)	
6										2	0		3	0		3	0	
5										1	0		0	0		0	0	
4	1			1			0			5	2		4	2		4	2	
3										0	0		0	0		0	0	
2										2	0		2	0		2	0	
1										2	0		1	0		1	0	
Total	1	0		1	0		0	0		12	1		10	1		10	1	
	(1)			(1)			(0)			(15)			(14)			(13)		

12 1 5 | 17 1 4 | 19 2 3

Plot No 1 (cont)

Not scarified A 16,5

Pine

Bitterbrush

Chain No	1942 D	1942 C	1942 ND	1943 D	1943 C	1943 ND	1944 D	1944 C	1944 ND	1942 D	1942 C	1942 ND	1943 D	1943 C	1943 ND	1944 D	1944 C	1944 ND
8			0			0			0									
7			2			1			0									
6			1			1			0									
5			1			0			0	(3)						0	(2)	1
4			1			1			0									
3			0			0			0	(3) (4)		1		1			0	
2			1			0			0	(2)		4		4	0		4	
1			1			0			0									
Total			7			3			0			4		5			1	4
												(9)		(5)			(5)	

Not scarified B 140,5 = 206.5

1																		
2																		
3																		
4			2			1			0			1		0			0	
5										(4)				(4)			1	
6																		
7																		
8																		
			2			1			0			1		0			0	1
												(2)		(1)			(1)	
												5		1	5		1	5

Plot No 2 — A Hornaday.

How many seed trees

Scarified A 19.8 →

Pine

Chain No	1942 D	1942 C	1942 ND	1943 D	1943 C	1943 ND	1944 D	1944 C	1944 ND
1				lap		lap			0
6	1s			1			0		
7	1			1			1s		
Total	2		1	2		1	1		0
	(3)			(3)			(1)		

Scarified B 46.2 →

5	1	1	0
4	1	1	0
1	1	0	0
Total	3	2	0
	(3)	(2)	(0)

Not scarified A 19.8

6	1	0	0
Total	1	0	0
	(1)	(0)	(0)

Not scarified B 46.2

6	(2) 1	(1) 0	0
	(2)	(1)	(0)

B. Hardwoods

Chain No	1942 D	1942 C	1942 ND	1943 D	1943 C	1943 ND	1944 D	1944 C	1944 ND
3	1			1			1		
4	1			1			1		
5	2			2			(4)		
6	1			1			1		
7	0			1			1		
8	1			1			1		
Total	6			7			5 1		
	(6)			(7)			(6)		

8	1	1 (5)	1
7	2	3	3
6	8 (5)	6 (5)	6 (3)
5	6 (2)	5 (2)	4
4	1	1	0
3	1	0	0
Total	19 2	16 4	14 (3)
	(21)	(20)	(17)
	vs 2	vs 3 4	19 4

7	1	0	0
6	v	0	0
3			(3)
Total	3	0	0 1
	(3)	(0)	(1)
1		(2)	(2)
6	0	0	1
7	(3)	—	1
Total	1	1	1 2
	(1)	(1)	(3)

13 1 - v v

Modoc Scarification Pine and Pt Altormay

Dominant ground cover
Cp,

Plot No 4 (Farburn)

Scarified Pine

A - 135, 3

Chain No	Oct 1942 D	C	ND	Nov 1943 D	C	ND	May 26 1944 D	C	ND
1	15	(1)	7	5		2	5 s		0
2	5	(5)	13	5		12	0		6 cp
3	8	(5)	40	4		16	0		4 cp
4	4		7	2		7	3		7 cp,
5	0		4	0		4	0		cp,
6	8		9	5		5	0		cp
7	7	(3)	12	7		15	5		15 cp
8	7		17	5		9	0		5 cp
							9 s		39 cp

B 201, 3

Chain No	Oct 1942 D	C	ND	Nov 1943 D	C	ND	May 26 1944 D	C	ND
8	8	(6)	17	3		13	5 cp		13 cp
7	4		15	1		5	0		5 cp
6	15		19	8		20	8 s		20 cp
5	4		9	0		5	0		3 cp
4	6		2	3		0	3 s		0
3	8		18	4		10	2 s		7 cp
2	10		20	5		15	0		2 cp
1	12		9	4		6	0		6 cp
							135' Scp.		56

1/2 plot covered by down log and debris 1943

cp = ceanothus cuneatus s = soil
D = disturbed ND = not disturbed C = rodent cache

56
39
22
117

95

Not Scarified

A - 135, 3

8	0	0	0
7	0	0	0
6	5	2	0
5	6	3	0
4	(3) 1	0	0
3	2	1	cp
2	9	6	0
1	11	6	3 cp
			4 cp

part covered by debris 1943

B 201. 3

1	29	7	2 cp
2	(5) 30	7	9 cp
3	(7) 10	3	1 cp
4	0	0	0
5	(9) 30	8	4 cp
6	1	1	0
7	7	2	2 cp
8	(7) 1	0	0
			18 cp

May 26/44
Notes: Pines on scarified strips average 3" tall; on nonscarified 1½"
Needles yellowish on all seedlings.

Plot No 5 (Near burn)

A Hormay

Dominant ground cover

Cp, Bt, SIh

Scarified

A 19.8

Chain No	Oct 1942 D	C	ND	Nov 1943 D	C	ND	May 26 1944 D	C	ND
8	0		0	0	0	0	0		0
7	2			0	0	0	0		0
6	3		0	0	0	0	0		0
5	4		1	2	1	2 s			0
4	15		3	12	2	5 s			2 cp
3	2		3	4	0	1 cp			0
2	23		4	4	0	4 s			0
1	41	4	40	25	30	10 s			27 cp
						21 s 1 cp			29 cp

B 79.2

Chain No	Oct 1942 D	C	ND	Nov 1943 D	C	ND	May 26 1944 D	C	ND
1	5		1	0		0	0		0
2	4		6	0		2	0		2 cp
3	22		4	9		7	4 s		7 cp
4	12		15	13		5	5 s		5 cp
5	7		5	5		2	0		2 s
6	2		1	1		1	0		1 s
7	0		0	0		0	0		0
8	1		0	0		0	0		0
							9 s		14 cp 3 s

Not scarified

A 19.8

1	26	14	3	11 cp
2	5	2		1 cp
3	8	2		1 s
4	17	8		2 cp
5	7	2		0
6	5	2		1 cp
7	6	2		1 cp
8	1	0		0
				16 cp 1 s

log skilled over line

B 79.2

8	0	0	0
7	8	2	2 cp
6	21	12	3 cp
5	10	7	1 s
4	16	10	1 s
3	8	6	0
2	12	10	4 s
1	17	20	20 cp
			25 cp 6 s

Cp Poa

30 29
1 14
16
25
84

May 26/44
Seedlings mainly in Cp

Modoc Scarification

Dominant groundcover

Bt SIh, cp scattered Pf, ARp

Plot 6

A-3.3

Scarified

Chain No	May 28 D CND		May 28 D CND
1		8	1s
2		7	
3		6	1s
4		5	1N 4cp
5	2cp 3s	4	
6		3	
7		2	
8		1	
	1s		2s
	2cp 4s		1N 4cp
	6		7

Not scarified

1	8cp -41+	8	1N
2		7	
3	1s -41+	6	
4		5	
5		4	
6		3	1cp 2cp -41+
7		2	1cp
8	1cp 41+	1	4cp 1cp -41+
	9cp 1s		1N 9cp.
	10		10
	16 17		24
	33		