

UNITED STATES DEPARTMENT OF AGRICULTURE  
 FOREST SERVICE  
 PLUMAS NATIONAL FOREST



ADDRESS REPLY TO  
 FOREST SUPERVISOR  
 AND REFER TO

QUINCY, CALIFORNIA

G  
 REVEGETATION - Plumas  
 Bitterbrush

11 February 1944

California Forest and Range Experiment Station  
 330 Giannini Hall  
 University of California  
 Berkeley, California

Attention: A. L. Hormay

Dear Sir:

The following notes and comments on bitterbrush reproduction at the plot near Delleker have been received from Ranger Gifford:

"Survival Count of Bitterbrush Plantation - Delleker  
 August 31, 1943 - Inspection by Gifford and DeCamp.

Stake Seedlings Alive			Stake Seedlings Alive			Stake Seedlings Alive		
No.	North	South	No.	North	South	No.	North	South
1	8-0	0 0	8	7 5	0 0	15	18 3	7 6
2	2-0	0 0	9	1 0	0 0	16	18 1	0 0
3	2-2	0 0	10	2 2	0 0	17	6 1	0 0
4	0-0	0 0	11	4 0	0 0	18	15 2	0 0
5	7-0	1 0	12	0 0	0 0	19	16 0	11 9
6	8-3	0 0	13	12 5	5 3	20	7 0	4 0
7	5-5	0 0	14	17 10	5 3			

Survival of Bitterbrush from Natural Seed caches - 8/31/43 -

A - 1	D - 0	G - 0	J - 11	M - 2
B - 0	E - 1	H - 0	K - 4	N - 2
C - 2	F - 0	I - 2	L - 4	O - 1

Notes in regards to germination and survival of Bitterbrush seed spot plantation at Delleker.

Seeds from two sources (Crater Mountain and Delleker Mountain) were planted September 30, 1942.

Germination was 60% of the spots

Survival through a dry spring - 88%

Survival through summer (August 31, 1943) - 63%.

Spring record. May 10/43

Start Feb 14/44

Do not sample

2 - California Forest and Range Experiment Station - 2/11/44

"Germinated natural caches were staked out in the spring of 1943 as a check.

Survival through a dry spring - 87%

Survival through summer (August 31, 1943) - 67%

Average seedlings per spot survived (planted = 6 )

Average seedlings per natural cache survived = 3 )

Average height of seedlings (planted) = 2.5" (

Average height of seedlings (natural) = 1.8" )

( August 31, 1943

From the standpoint of individual seedlings, the following was noted:

Survival through spring (planted) - 57%

Survival through summer " - 32%

Survival through spring (natural) - 46%

Survival through summer " - 17%

The above comparison, however, is not on a good basis. Original germination in the natural caches resulted in spots containing as many as 28 seedlings, while the planted spots had a maximum of 18 seedlings. The difference in competition within the spots was therefore a prominent factor of survival.

Since one seedling per spot should be sufficient for successful operations, the survival of spots is definitely more indicative of results to be expected.

Conclusions thus far are that germination and survival depends partly on condition of the seed (11 of the 15 surviving spots were from Crater Mountain seed). Also, survival of planted spots compares very favorably with survival in natural caches.

Whether a comparison of source of seed would mean anything in eventual survival is an interesting question. In this experiment the Crater Mountain seed had superior germination over the local Delleker Mountain seed. Survival of the Crater Mountain seed during May was also better. Survival during summer, however, showed the Crater Mountain spots as only 61% and the Delleker Mountain spots as 67%. It is interesting to note that the latter is exactly the same as in the natural seed cache spots."

Very truly yours

D. N. ROGERS, Forest Supervisor



By C. L. Peckinpah

Acting