

Plan ??

1941 Bitterbrush Seedling Study

Pacific Southwest Forest and Range Experiment Station,
California

Purpose To observe the survival and growth of bitterbrush seedlings on a pine site

Location of study

Black Mountain Experimental Forest
Eagle Lake District (formerly Bogard District)
Lassen National Forest, California Region 5
The study was conducted inside a half acre livestock enclosure located in the transition zone between pine and sagebrush types on the north edge of Grass Valley.

The enclosure and present study

The enclosure was constructed in 1933. It was one of four that were to be used to study intensity of ^{livestock} grazing at different distances from water. But this study was not carried out. The present bitterbrush seedling study was started in 1941 and carried on through 1977 & 1978

Vegetation on enclosure site

Overstory

Scattered mature trees of ponderosa and jockey pine and light stand of young reproduction most less than 10 feet tall.

Understory

Shrubs

Moderate to heavy stand of bitterbrush. Light stand of big sagebrush and bloomers rabbit brush.

Grasses and grass like

Idaho fescue

Bottlebrush squirrel tail

Western needlegrass

Little bluestgrass

Forbs

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The seedling study

In 1941 a large number of bitterbrush seedlings germinated inside the enclosure. Most of the seedlings were in groups originating from seeds cache by rodents. Seventy-two of these groups - called caches - were marked with stakes.

The number of seedlings in the caches ranged from 2 to _____. Records were made of the mortality and survival of seedlings in each of the caches and of the survival and growth of the caches, as a whole from 1941 to 1977.

That had germinated in 1936 and 5 in 1940 were also staked and observed

~~The seedling groups - caches~~

Each seedling group (cache) was ~~staked~~ marked with a wood stake. The stakes were numbered from 1 to 94. Two seedling "groups" that germinated in 1941, numbers 34 and 75, contained but one seedling so ~~and~~ could not be considered as originating from a seed cache. These were eliminated from the study. So a total of 92 seedling caches ~~have~~ ^{have been} observed.

The stakes for the three age classes of seedlings were colored coded as follows

Germination year	Color of stake	
	Upper portion (Top)	Lower portion
1936	Black	Orange
1940	Pink	Orange
1941	All orange	

1941 Pt Seedling Study
 Inside BMT Pt Enclosure

Survival 1936, 1940, 1941 seedlings

Examinations

Exam No		Date	Examiners
1		1941 June 19	ALH
2		1941 Nov. 12	"
3		1942 June 21	"
4		1942 Aug 1	"
5		1942 Oct	"
6		1943 May 11	ALH, F. Dowditch
7		1943 Nov 19	ALH
8		1944 July 31	ALH, N C Blaisdale
9		1944 Oct 24	ALH, KH
10		1945 Aug 13	ALH
11		1947 Aug 14	ALH U.C. Students
12	Size	1952 Aug 1	Hubbard, Kay
13	"	1960 Oct 17	ALH
14	"	1961 Oct 7 3	ALH
15	"	1962 Oct 24	ALH
16	"	1963 Sept 5	ALH
17	"	1965 Oct 8	ALH.
18	"	1977	

