Preservative Treatments of Fence Posts

1944 Progress Report on the Post Farm

By
T. J. STARKER

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Oregon State College

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Preservative Treatments of Fence Posts

1944 Progress Report on the Post Farm

by

T. J. STARKER*
Professor of Forestry

The seventh annual examination of the Post Farm was made this year on October 17, 1944. Tests made on this date supply the data for the present supplemental report. Twenty-nine posts were found to have failed, with the largest contribution from Series 57, which had 8 failures. This series is composed of untreated Douglas-fir.

No additions were made to the post farm this year, but invitations are repeated for manufacturers of preservatives, or others interested in prolonging the life of wood in ground service, to contribute either material for testing or suggestions for other series that should be investigated.†

RECORDS OF POST SERIES

Table 1 appearing in previous supplements has been brought up to date by addition of the following new data:

Series 8. These Douglas-fir posts were planted March 6, 1929 and were treated in an open tank by the Carbolineum Wood Preserving Company, using a "B" treatment. One failure this year was recorded. (See Appendix C, Bulletin 9 for details of treatment.)

Series 9. These posts consisted of white cedar tops from long poles and were treated by the same company as No. 8. There were only 10 samples in this series with three failures to date, two occurring this year.

Series 10-11. These western red cedar posts were selected for color since there has been some discussion as to the relative life of light and dark colored wood within a species. To date the two colors are on about equal terms, as both have had two failures, one each this year.

Series 18. Consists of Douglas-fir treated with crankcase oil and creosote. This series lost one post this year.

Series 35-36. These two series composed of sugar pine and ponderosa pine, respectively, each lost one post.

Series 43. This series of Douglas-fir was treated with chromated zinc chloride in a water solution, and lost two posts this year.

Series 47. These cascara posts lost two posts this year, making 12 in six years of service.

Series 48. These untreated dead lodgepole posts lost five in the 1944 examination.

* On leave of absence.
† Interested persons may obtain copies of the original bulletin (No. 9) or later supplements from Oregon State Engineering Experiment Station.

Series 49. This series, while of the same species as No. 48, lost only one; it was the last one of the 25 for this series. The average life is 4 years.

Series 50. Consists of the same species as Series 48 and 49, and was treated by means of the salt method. While No. 48 has only 3 posts left, and No. 49 has completely failed, this series is just starting to fail with one post lost in the 1944 examination. This is the first salt treated post to fail in the entire farm over a period of 16 years. (See Appendix B, Bulletin 9 for details of treatment.)

Series 52. Apparently in recording the data in 1943, this series was charged with three failures. This is an error and has been corrected in Table 1 of this supplement.

Series 55. These were 4 x 4 untreated Douglas-fir and had two failures.

Series 57. As noted in the introduction this series of 25 nontreated Douglas-fir had the largest proportion of failures, eight. In the preceding two years this series also had eight failures each year.

There were 29 posts removed in 1944 from the entire farm compared with 39 in 1943, and 49 in 1942.

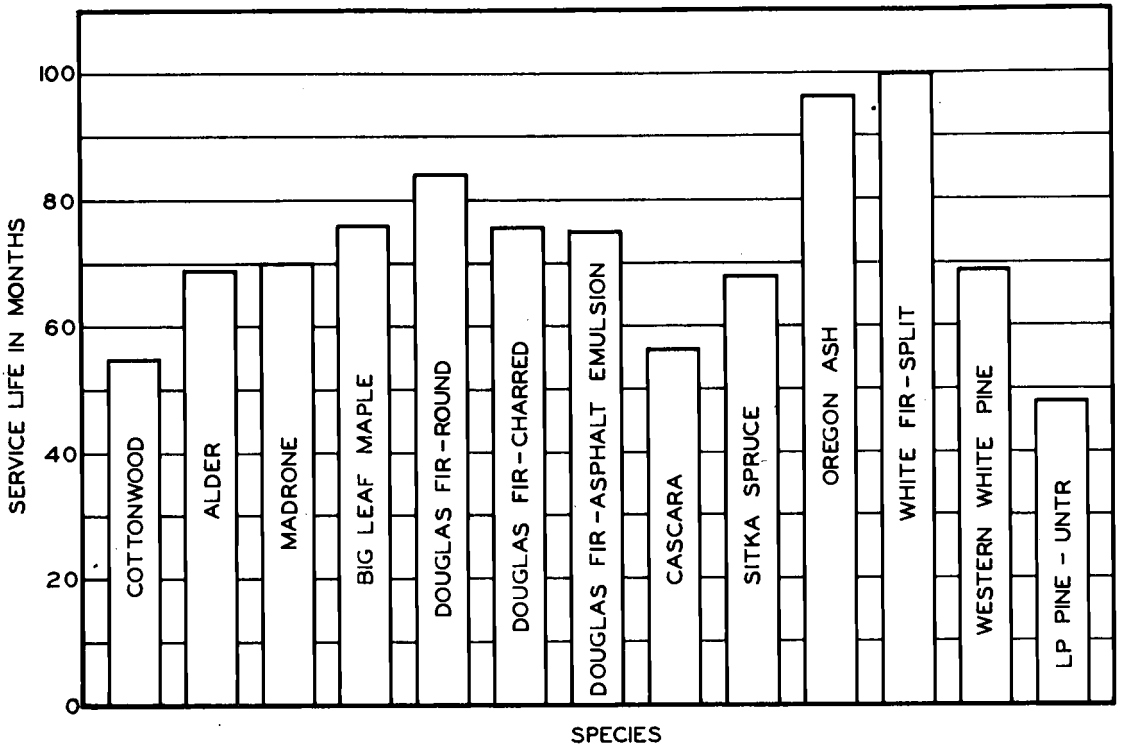

Figure 1. Average Service of Posts That Have Failed 100 Per Cent.

Table 1. SUMMARIZED RECORD OF SERVICE FROM VARIOUS TREATMENTS

	Series, number, and species*	Treatment*	Average life	Date set	Number of posts	Number of failed posts by inspection dates												
						Month	4	10	10	10	10	10	10	10	10	10	11	10	10
						Day	22	5	14	4	17	7	20	20	11	12	15	18	28	17
						Year	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44
			Months																	
1	Douglas-fir	None	84	1- 7-28	25		....	4	5	7	4	2	1	2	....	....	....	....	....	....
2	Douglas-fir	$HgCl_2$—1 hole	....	1- 7-28	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	Douglas-fir	$HgCl_2$—(2 hole with As_2O_3)	....	1- 7-28	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
4	Douglas-fir	$HgCl_2$—3 hole	....	1- 7-28	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
5	Douglas-fir	ACM treater dust	....	3- 6-28	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
6	Douglas-fir	ACM gran. treater dust	....	3-20-28	25		....	....	1	....	....	....	....	....	....	....	1	....	4	....
7	Douglas-fir	SP. creosote	....	3- 6-29	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
8	Douglas-fir	Carb. Wood Pres. Co.	....	3- 6-29	22		....	....	....	....	....	....	2	5	5	2	....	2	....	1
9	Port Orford cedar	Tops, open tank	....	4-20-28	10		....	....	....	....	....	....	....	....	....	1	....	....	....	2
10	Western red cedar	Dark—split	....	3- 6-29	25		....	....	....	....	....	....	....	....	1	....	....	....	....	1
11	Western red cedar	Light—split	....	4- 1-29	25		....	....	1	....	....	....	....	....	....	....	....	....	....	1
12	Douglas-fir	$ZnCl_2$ steeped	....	3-14-29	25		1	1	5	4	4	2	5	1	....	1	....	....	....	....
13	Yew	None—round	....	3- 5-29	22		....	....	....	....	....	....	1	1	2	....	1	....	....	....
14	Cottonwood	None—split	55	3- 5-29	25		2	6	6	8	2	....	1	....	....	....	....	....	....	....
15	White fir	None—split	....	3- 5-29	25		1	4	1	3	2	1	3	1	2	1	2	2	2	....
16	Alder	None—split	69	3- 5-29	25		1	6	3	7	8	....	....	....	....	....	....	....	....	....
17	Big-leaf maple	None—split	76	3- 5-29	25		....	....	....	11	8	3	3	....	....	....	....	....	....	....
18	Douglas-fir	Crankcase oil and creosote	....	5- 7-29	25		....	1	....	....	....	1	....	1	1	2	....	2	....	1
19	Oregon oak	None—split	....	5- 7-29	25		....	....	....	....	....	....	3	5	2	....	2	1	....	....
20	Cascara	Small posts round	57	3- 5-29	12		1	3	1	4	1	1	....	....	1	....	....	....	....	....
21	Port Orford cedar	None—split	....	5- 4-29	25		....	....	....	....	....	....	....	....	....	1	....	....	....	....
22	Douglas-fir	Charred	76	5- 4-29	25		1	3	5	3	4	1	3	4	....	1	....	....	....	....
23	Douglas-fir	St. Helens—pressure	....	5-31-29	50		....	....	....	....	....	....	....	....	....	....	....	....	....	....
24	Douglas-fir	ACM 2-pound paste	....	2- 6-30	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
25	Douglas-fir	ACM 4-pound paste	....	2- 6-30	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
26	Madrone	None	69.6	2- 6-30	25		....	....	3	6	7	3	6	....	....	....	....	....	....	....
27	Cottonwood	Open tank creosote	....	2- 6-30	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
28	Ash	None—split	96	3-19-30	25		....	1	1	8	4	2	5	3	....	....	....	1	....	....
29	Incense cedar	None—split	....	3-19-30	25		....	....	....	1	5	....	1	....	2	....	....	2	2	....
30	Western juniper	None—round	....	2-12-30	25		....	....	....	....	....	....	....	....	....	....	....	1	1	....

* Details on treatments and post materials for each series are given in Bulletin 9 of this series and its annual supplements.

Table 1. SUMMARIZED RECORD OF SERVICE FROM VARIOUS TREATMENTS—*Continued*

Series, number, and species*	Treatment*	Average life	Date set	Number of posts	Number of failed posts by inspection dates													
					Month	4	10	10	10	10	10	10	10	10	10	10	11	10	10
					Day	22	5	14	4	17	7	20	20	11	12	15	18	28	17
					Year	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44
		Months																	
31 Sitka spruce	None—4 x 4	68	4–15–33	26		....	....	....	....	....	4	10	2	1	4	5	....	....	....
32 Osage orange	None	....	4–15–33	26		....	....	....	....	....	....	....	....	....	....	....	....	....	....
33 Douglas-fir	ZMA	....	4–15–33	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
34 Western white pine	None—4 x 4	....	9–20–33	25		....	....	....	....	....	1	2	7	12	2	....	....	1	....
35 Sugar pine	None—4 x 4	....	9–20–33	25		....	....	....	....	....	2	2	8	3	2	....	2	....	1
36 Ponderosa pine	None—4 x 4	....	9–20–33	25		....	....	....	....	....	1	3	7	7	2	....	1	....	....
37 Western larch	None—4 x 4—S4S	....	9–20–33	25		....	....	....	....	....	....	5	9	1	2	2	2	1	....
38 Western hemlock	None—4 x 4 rough	....	9–20–33	25		....	....	....	....	....	3	5	6	6	2	....	1	1	....
39 Douglas-fir	Asphalt emulsion	75	9–20–33	25		....	....	....	....	....	2	6	4	12	1	....	....	....	....
40 Black locust	None—split	....	4–13–35	22		....	....	....	....	....	....	....	....	....	....	....	....	....	....
41 Western hemlock	Wolman salts—4 x 4	....	12– 5–36	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
42 Douglas-fir	Wolman salts—4 x 4	....	12– 5–36	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
43 Douglas-fir	Chr. $ZnCl_4$—round	....	2–13–37	25		....	....	....	....	....	....	....	....	....	....	....	1	....	2
44 Hemlock	Chehmonited—4 x 4	....	5– 1–37	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
45 Douglas-fir	Chemonited—4 x 4	....	5– 1–37	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
46 Alaska cedar	None—split	....	11– 6–37	24		....	....	....	....	....	....	....	....	....	....	....	....	....	....
47 Cascara	None—round	....	1–29–38	26		....	....	....	....	....	....	....	....	....	1	4	4	1	2
48 Lodgepole pine	Untreated—dead	....	11– 1–38	26		....	....	....	....	....	....	....	....	....	....	4	7	6	5
49 Lodgepole pine	Untreated—live	....	11–10–38	25		....	....	....	....	....	....	....	....	....	....	7	11	6	1
50 Lodgepole pine	1 pt. $HgCl_2$, As_2O_3, $NaCl_3$	....	11–17–38	25		....	....	....	....	....	....	....	....	....	....	....	....	....	1
51 Douglas-fir	Creosote-petroleum mixture	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
52 Douglas-fir	Gasco coal tar creosote (Exp.)	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
53 Douglas-fir	Creosote (Com.) coal tar	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
54 Douglas-fir	Oil tar creosote	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
55 Douglas-fir	Untreated—4 x 4	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	1	6	2
56 Ponderosa pine	Permatol treated	....	12– 6–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
57 Douglas-fir	None—Corvallis Lbr. Co.	....	12– 6–39	25		....	....	....	....	....	....	....	....	....	....	....	8	8	8
58 Redwood	None—4 x 4 Foundation grade	....	12–20–39	25		....	....	....	....	....	....	....	....	....	....	....	....	....	....
59 Douglas-fir	Tire tube—Chemonite	....	6– 3–42	12		....	....	....	....	....	....	....	....	....	....	....	....	....	....
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* Details on treatments and post materials for each series are given in Bulletin 9 of this series and its annual supplements.

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