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Preservative Treatments of Fence Posts

1943 Progress Report on the Post Farm

By

T. J. STARKER

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Preservative Treatments of Fence Posts

1943 Progress Report on The Post Farm

by T. J. STARKER*, Professor of Forestry

ON OCTOBER 28, 1943, the Post Farm was examined for failures and 42 posts did not resist the standard test of a 50-pound pull applied two feet above the ground. This compares with 49 posts removed in the 1942 examination.† No additions were made to the Post Farm during the year 1943.

RECORDS OF POST SERIES

Series 2, 3, and 4. The posts in series 2, 3, and 4 were all given the so-called salt treatment and to date have shown no failures. Theoretically a treatment that preserves the outer portion of a post is preferred, but to date all these posts have resisted the 50-pound pull. Some of these posts are badly decayed above the ground and it is believed that if they had been barked down to the ground level there would not have been so much rot. Adjoining posts outside the Post Farm have shown no top decay after several years of exposure.

Series 15. The last two posts in the white fir group have failed. This species exhibits the greatest regularity of annual failures of any tested. One post failed two years after insertion and since then one or more posts have each year failed to resist the test. This is for a period of 14 years. Even though the average life is 100 months, this species cannot be recommended for post material because of its possible early failure if enough heart material is not included.

Series 34, 35, 36, 37, and 38. In this group of species consisting of western white pine, sugar pine, ponderosa pine, western larch, and western hemlock, all made of 4" x 4" heart material and planted in 1933, the western white pine is the first to succumb 100 per cent. It is closely followed by western hemlock with 24 failures, western larch with 22, ponderosa pine with 21, and sugar pine with 19. Western white pine had an average life of 69 months.

Series 48, 49, and 50. In series 48, 49, and 50 the salt treatment apparently is again showing its value with lodgepole pine, as it did with the original Douglas-fir groups, as there have been no failures in Series 50.

Untreated dead lodgepole has had 17 failures over a period of five years, while untreated live lodgepole has lost 24 posts of the total of 25 in the same period.

Table 1. The progress of the life of the various species and treatments is probably best shown by means of a table and therefore Table 1, appearing in previous reports, is being brought up to date. Two small errors occurred in the 1942 (No. 9-D) report and these are being corrected. The records for series completed are also shown graphically in Figure 1.

The writer again expresses his appreciation to cooperating individuals and organizations. Suggestions and constructive criticism of these progress reports are solicited so that they may be of greater service to the wood preserving industry and to users of wood in exposed places. As new methods of treatment are developed it is hoped that test material will be submitted for testing. Specifications for material to be placed in the Post Farm will gladly be furnished.

* On leave of absence.

† Interested persons may obtain copies of previous reports in the series from Oregon State Engineering Experiment Station.

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	11	10
					Day	22	5	14	4	17	7	20	20	11	12	15	18	28
Year	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	41	42	43					
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 ₂ O 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	....
7 Douglas-fir	SP. creosote	....	3-6-29	25	....	....	....	....	....	....	2	5	5	2	....	....	2
8 Douglas-fir	Carb. Wood Pres. Co.	....	3-6-29	22	....	....	....	....	....	....	....	....	....	....	....	....	....
9 Port Orford cedar	Tops, open tank	....	4-20-28	10	....	....	....	....	....	....	....	....	....	....	1	....	....
10 Western red cedar	Dark-split	....	3-6-29	25	....	....	....	....	....	....	....	....	....	....	....	....	....
11 Western red cedar	Light-split	....	4-1-29	25	....	....	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	23	....	....	....	....	....	....	....	....	....	....	....	....	....
14 Cottonwood	None-split	55	3-5-29	25	....	2	6	6	8	....	....	1	....	....	....	....	....
15 White fir	None-split	....	3-5-29	25	....	1	4	1	3	2	1	3	1	2	1	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	....	....	....	....	....	....
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	....	....	....	....	....	....
21 Port Orford cedar	None-split	....	5-4-29	25	....	....	....	....	....	....	....	....	....	....	....	....	....
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
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 Day Year	4 '22	10 '32	10 '33	10 '34	10 '35	10 '36	10 '37	10 '38	10 '39	10 '40	10 '41	11 '42	10 '43	
		<i>Months</i>																	
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															
35 Sugar pine	None—4 x 4		9-20-33	25						1	2	7	12	2					1
36 Ponderosa pine	None—4 x 4		9-20-33	25						2	2	8	3	2					2
37 Western larch	None—4 x 4—S+S		9-20-33	25						1	3	7	7	1					1
38 Western hemlock	None—4 x 4 rough		9-20-33	25							5	9	1	2					2
39 Douglas-fir	Asphalt emulsion	75	9-20-33	25						3	5	6	6	2					1
40 Black locust	None—split		9-20-33	25						2	6	4	12	1					1
41 Western hemlock	Wolman salts—4 x 4		4-13-35	22															
42 Douglas-fir	Wolman salts—4 x 4		12- 5-36	25															
43 Douglas-fir	Chr. ZnCl ₂ —round		12- 5-36	25															
44 Hemlock	Chemonited—4 x 4		2-13-37	25															1
45 Douglas-fir	Chemonited—4 x 4		5- 1-37	25															
46 Alaska cedar	None—split		5- 1-37	25															
47 Cascara	None—round		11- 6-37	24															
48 Lodgepole pine	Untreated—dead		1-29-38	26															
49 Lodgepole pine	Untreated—live		11- 1-38	26															
50 Lodgepole pine	1 pt HgCl ₂ , As ₂ O ₃ , NaCl ₃		11-10-38	25															7
51 Douglas-fir	Creosote-petroleum mixture		11-17-38	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															
56 Ponderosa pine	Permatol treated		12- 6-39	25															
57 Douglas-fir	None—Corvallis Lbr. Co.		12- 6-39	25															8
58 Redwood	None—4 x 4 Foundation grade		12-20-39	25															
59 Douglas-fir	Tire tube—Chemonite		6- 3-42	12															
				1,454															

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

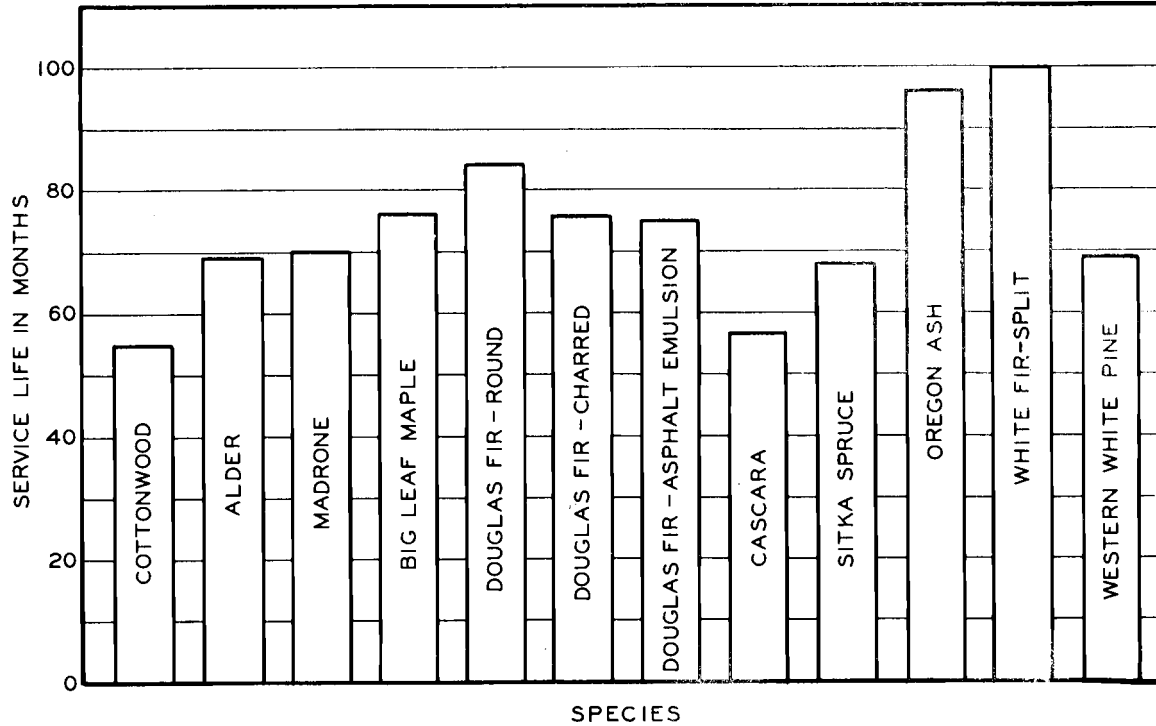


Figure 1. Average service of posts that have failed 100 per cent.

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