Preservative Treatments of Fence Posts

1942 Progress Report on the Post Farm

By
T. J. STARKER

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Preservative Treatments of Fence Posts

1942 Progress Report

on

The Post Farm

by

T. J. STARKER*
Professor of Forestry

ON NOVEMBER 18, 1942 the Post Farm was again examined for failures of any of the 1,454 posts that have thus far been placed in the ground for testing. This examination forms the basis for the fifth report (9-D) for this series of tests. This year's inspection revealed 49 failures when each post was subjected to the standard 50 lb pull applied 2 feet above the ground. This compares with 28, 25, and 29 for the years 1940, 1939, and 1938 respectively.†

In previous progress reports it has been suggested to those who are interested in the failures by years that Table 1, Bulletin No. 9 could be brought up to date by making the proper additions. As Bulletin No. 9 is now four years old, however, this table is brought up to date in this issue. This table shows the loss by years for each of the treatments, as well as the average life for those series that have been completed.

1942 ADDITIONS TO THE POST FARM

Series 59. Twelve Douglas-fir round posts, treated with Chemonite preservative by the tire tube method, were planted and numbered 219 to 230 inclusive on June 3, 1942. Absorption was from 4 to 8 pints of liquid preservative per post. Ranging from 5 to 8 inches in diameter, the posts are slightly larger than those used in the earlier series of salt treatments. The 1942 series of twelve treated posts is a presentation of the West Oregon lumber company.

RECORDS OF POST SERIES

Series 2-3-4. Attention is again called to the series of salt treated posts because, although these were the first posts placed in the Post Farm, no failure has been recorded.

Series 15. As has been brought out in previous reports, the white fir series is very consistent in having failures each year. This is the twelfth year that failures have occurred in this species, but at no time have they exceeded four nor dropped below one. There are still two posts left.

Series 28. Oregon ash is the only series of posts that completed its failures this year. These split posts showed an average life of 96 months.

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* On leave of absence.

† Interested persons may obtain copies of previous reports in the series from the 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
					Day	22	5	14	4	17	7	20	20	11	12	15	18
					Year	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'42	'42
		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		....	....	....	....	....	....	....	....	....	....	1	....
6 Douglas-fir	ACM gran. treater dust	....	3–20–28	25		....	....	1	....	....	....	....	....	....	....	....	....
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
9 Port Orford cedar	Tops, open tank	....	4–20–28	10		....	....	....	....	....	....	....	....	....	1	....	....
10 Western red cedar	Dark—split	....	3– 6–29	25		....	....	....	....	....	....	....	....	1	....	....	....
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		....	....	....	....	....	....	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
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– 7–20	25		....	1	....	....	....	1	....	1	1	2	....	2
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
30 Western juniper	None—round	....	2–12–30	25		....	....	....	....	....	....	....	....	....	....	....	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 '31	10 5 '32	10 14 '33	10 4 '34	10 17 '35	10 7 '36	10 20 '37	10 20 '38	10 11 '39	10 12 '40	10 15 '41	11 18 '42
		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	....	....
35 Sugar pine	None—4 x 4	....	9–20–33	25		....	....	....	....	....	2	2	8	3	2	....	2
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
38 Western hemlock	None—4 x 4 rough	....	9–20–33	25		....	....	....	....	....	3	5	6	6	2	....	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
44 Hemlock	Chemonited—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
48 Lodgepole pine	Untreated—dead	....	11– 1–38	26		....	....	....	....	....	....	....	....	....	....	4	7
49 Lodgepole pine	Untreated—live	....	11–10–38	25		....	....	....	....	....	....	....	....	....	....	7	11
50 Lodgepole pine	1pt $HgCl_2$, As_2O_3, $NaCl_3$	....	11–17–38	25		....	....	....	....	....	....	....	....	....	....	....	....
M–51 Douglas-fir	Creosote-petroleum mixture	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....
C–52 Douglas-fir	Creosote (Com.) coal tar	....	10–11–39	25		....	....	....	....	....	....	....	....	....	....	....	....
P–53 Douglas-fir	Gasco coal tar creosote (Exp.)	....	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
56 Ponderosa pine	Permatol treated	....	12– 6–39	25		....	....	....	....	....	....	....	....	....	....	....	....
57 Douglas-fir	None—Corvallis Lbr. Co.	....	12– 6–39	25		....	....	....	....	....	....	....	....	....	....	....	8
58 Redwood	None—Holmes Eureka Foundation Grav.	....	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.

Series 34, 35, 36, 37, and 38. In these five series made up of 4 x 4 untreated posts inserted September 20, 1933, the race for longevity is almost approaching a deadlock. Western white pine has one post remaining; sugar pine, five posts; ponderosa pine, four; western larch, four; and western hemlock, two.

Series 47. As pointed out in Bulletin 9-C, results on cascara obtained thus far indicate rather a short life. Four of these posts failed this year.

Series 48 and 49. Posts of dead lodgepole appear to be lasting longer than posts cut from live timber. In the last 2 years, 11 of the dead posts have failed, while in the same period 18 of the live posts have broken. Of the 49 posts to fail in the Post Farm this year, 18 were lodgepole.

The writer again desires to express his appreciation to cooperating individuals and organizations. Their suggestions and constructive criticism of these progress reports are solicited so that the reports 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 such material will be gladly furnished.

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