

PROFIT AND COST OF WEED TREE REMOVAL

By William H. Brooks III, Farm Advisor

REMOVING WEED TREES on oak grass range land can be an economical, long-lasting method of increasing range feed for livestock.

Chemical treatment of weed trees by injector type applicators, using 2,4-D amine, is the standard method to kill trees chemically. Frilling with an axe, and applying 2,4-D with a squirt type oil can, can be effective.

THE ADVANTAGES OF CHEMICAL TREATMENT OF TREES ON RANGE CAN BE:

- * An economical method of tree removal.
- * No expensive equipment required.
- * Costs are returned by increased feed production.
- * Treatment can leave desirable trees.
- * Treatment can be done from November to May.
- * Increases amount of water.

Cost estimates of tree removal on ranges can be calculated based on the information below, developed at the U.C. Hopland Field Station. This tree removal cost information was developed from the treatment of a 210 acre watershed of oaks, grass, and brush.

PROFIT FROM TREE TREATMENT

The 210 acre watershed was calibrated for feed production prior to the

treatment of trees. Range feed increased dramatically after the weed trees were killed. The progress reports can be summarized as follows:

- * Five year average of feed production prior to treatment was 45.4 AUM 1/
- * Six year average of feed production after weed trees were killed was 278.2 AUM.
- * Increase in feed production as a result of treatment averaged 232.8 AUM, or 1.1 AUM increase per acre.

Total actual cost of tree treatment for 210 acres was \$4,084.80, or a cost of \$19.45 per acre. Six percent of the cost of the improvement can be used as an annual improvement cost, which would be \$1.17.

Profit from the increased feed can be calculated on the basis of hay value or the rental value of range. The value of the additional feed to the grower is between these two values.

* Profit from 1.1 AUM increase per acre in \$30 hay equivalent would be \$13.20 per acre, minus \$1.17 cost, or \$12.03 per acre.

* Profit from a 1.1 AUM increase per acre based on a range rental value of \$3.00 per AUM, would be \$3.30 per acre minus \$1.17 cost, or \$2.13 per acre.

1/ = Animal Unit Months, or .4 ton of hay equivalent.

The following table on costs for chemical tree treatment was developed from the actual costs of such treatment at the U.C. Hopland Field Station. The breakdown in the table was prepared to help growers figure their individual costs under different conditions.

COST PER ACRE FOR CHEMICAL TREE TREATMENT

<u>Diameter of trees treated</u>	<u>Blue Oak</u>	<u>Black Oak</u>	<u>Live Oak</u>	<u>Madrone</u>	<u>Manzanita</u>
3	\$2.69	\$2.54	\$3.22	\$3.74	\$3.60
5	4.23	5.15	5.34	5.41	5.35
7	5.77	6.95	7.37	7.09	7.07
9	7.30	8.75	9.43	8.75	---
11	8.85	10.56	11.50	10.42	---

These estimated costs are based on the following conditions: Density of 120 trees per acre, labor at \$1.50 per hour, and 2,4-D applied at a rate of 0.075 ounce per inch of tree diameter at cost of \$1.05 per pound. A permit is required to use 2,4-D.

The above information was developed by A.H. Murphy, Superintendent, U.C. Hopland Field Station.

Prepared by:
 William H. Brooks III
 Farm Advisor, Mendocino County
 January, 1969