

CONVERSION COST - BRUSH TO GRAINLAND

Compiled by Bob Leonard and Steve Bartok, Farm Advisors, April 1961

Here are some costs reported by Paul Aurignac of San Ardo in converting 51.28 acres from oak woods to grainland. Work was done with owned equipment and regular employees in 1958. The clearing was done by an 80 hp. crawler tractor with solid bulldozer blade. Costs shown below are as figured by Mr. Aurignac to cover all direct cash costs and depreciation on the equipment, but no interest on investment in equipment or planning and administrative costs, other than the estimated general expense and owner's supervision.

	Cost per Acre
Bulldozing, digging roots and piling at \$8 an hour	\$20.00
Man labor, burning piles	.50
Repiling for additional burning	2.00
Picking roots and burning, man labor	5.00
Disking, 1st time	4.00
Dragging	3.00
Picking roots and burning, 2nd time	1.50
Disking, 2nd time	2.50
Picking, hauling and burning roots, 3rd time	1.00
Dragging, 2nd time	1.50
Total direct clearing cost	<u>\$41.00</u>
General expense estimated at 5% of above	2.05
supervision      \$4      including "pick up" .8 hr.	3.20
Total clearing cost ready for seeding	<u>\$46.25</u>
Seeding and fertilizing first barley crop	2.50
Seed, barley	2.18
Fertilizer 16-20, 150 lbs. per acre	5.60
Total cost including planting	<u>\$56.53</u>

The first crop, harvested in 1959, was 1.25 tons per acre. If average yield in alternate future years is typical of the area, it could be around 1800 lbs. At \$1.80 per cwt. in farm storage this would come to \$32.40. Adding \$2.50 per acre for the grazing value of the stubble gives a total income of \$34.90. All costs per acre for the two years as shown by our local "Sample Costs for Barley" (1958) are \$34.08. Adding 5% for management, \$1.70 per acre, and subtracting the \$7.50 an acre included as interest on investment gives a total of all costs except interest on the land of \$28.28 an acre. Subtracting this from \$34.90 leaves \$6.62 as a two year return to land. This would be a 6% annual return on an agricultural value of \$55 an acre. This yield and the costs deducted are without fertilizer. A yield of 2000 lbs. at the above price would cover the fertilizer cost. A yield above this or a higher price for barley would justify a higher agricultural value per acre as would a lower capitalization rate. To make a return of 4% would justify an investment of \$83 an acre.

The clearing cost of \$46.25 per acre created from worthless land an asset worth over \$55 an acre permanently. The investment made was worthwhile.

CONVERSION COST - BRUSH TO RANGE - Case 1

Compiled by Bob Leonard, Steve Bartok, Farm Advisors, April 1961

Here are the costs reported by Paul Aurignac of San Ardo in converting 254 acres from heavy chaparral with some large oaks. This was in the Hidden Canyon and done in 1959 with owned equipment. Before clearing, this area produced no feed. It is not fenced from adjacent range so quantity of feed produced in the last two seasons of below normal rainfall is not available. It is estimated that production of feed in good years will probably be about 1 animal unit month of feed per acre or enough to carry a stocker calf to yearling on 6 acres during the grass season.

Clearing was done with an 80 hp. crawler tractor with solid bull-dozer blade. The brush was piled or windrowed and burned. Roads were constructed and small dams built in the gullies. Land was disked, and the seed and fertilizer shown below were drilled in. The operation costs shown below include the tractor driver and are cash costs for fuel and repairs plus depreciation, but do not include interest on investments in the equipment. No planning or administration cost is included but an estimate for owner supervision including a pickup is shown at the bottom. The following inputs and costs are shown per acre.

	Hours or Quantity per A.	Price or cost per Hr.	Cost per Acre
Clearing and road building, 80 hp. tractor and dozer	.60	\$8.15 hr.	\$ 5.00
Building dams, 80 hp. tractor and dozer	.07	8.15	.54
Burning - 80 hp. tractor and dozer	.02	8.15	.19
Burning, man labor	.07	2.00	.14
Disking, 80 hp. tractor and disk	.25	8.75	2.18
Seeding, 60 hp. tractor, drill and truck	.14	6.40	.88
Fertilizing, 60 hp. tractor, drill and truck	.12	6.40	.75
<b>Total labor and machinery cost</b>	<b>1.27 hr.</b>		<b>9.68</b>
Seed, barley	30 lbs.	2.60 cwt.	.78
burr clover	1.5	.46 lb.	.74
perennial rye	1.25	.22 lb.	.27
Harding grass	1.0	1.10 lb.	1.10
<b>Total seed</b>	<b>33.75 lb.</b>		<b>2.89</b>
Fertilizer, 16-20 ammonium phosphate	118 lb.	3.55 cwt.	4.19
<b>Total cash and depreciation costs</b>			<b>16.76</b>
General expense estimated at 5% of above costs			.84
Owner's supervision, including pickup	.13	4.00 hr.	.52
<b>Total cost, except interest</b>			<b>18.12</b>

The original brush land was virtually worthless but was assessed at around \$3 an acre with a property tax of about 13¢. As open grazing land producing an animal unit month of feed this land has considerable value. With a long time average price of yearling feeders of 22¢ a pound, pasturage would have a value of \$2.50 per animal unit month, so this land could be considered to produce an income of \$2.50 per acre. It would probably be assessed at \$10 an acre with a tax of about 40¢. This leaves \$2.10 an acre as "net rent" which is a 6% return on an agricultural value of \$35 an acre. The expenditure of under \$20 an acre created an asset of \$35 which will return \$2.10 an acre annually. Some additional follow-up and future treatments may be necessary and would reduce somewhat the average annual net income.

CONVERSION COST - BRUSH TO RANGE, Case 2  
Compiled by Bob Leonard and Steve Bartok, Farm Advisors

Here are some costs reported by Paul Aurignac of San Ardo in converting 175 acres including about 100 acres of heavy scrub oaks to open range land. Work was done with owned equipment and regular employees in 1958. Clearing of 100 acres of heavy brush was done by 200 feet of heavy anchor chain pulled between two 80 hp. crawler tractors. Cost per acre shown below are cash costs, labor, fuel and repairs plus depreciation on equipment as figured by Mr. Aurignac. Interest on investment in equipment and planning and administration costs were not reported but items of general expense and owner's supervision are shown as estimated. Costs are shown as spread over the entire 175 acres although some were done with chain and some with the dozer.

	Hours or Quantity	at	Cost per Acre
Pulling chain with 2 tractors	.23	8.00	1.83
Bulldozing canyon	.13	8.00	1.01
Building dams and road	.17	8.00	1.33
Burning - tractor and dozer	.07	8.00	.55
Burning - man labor	.07	2.00	.14
Fertilizing and seeding by helicopter	.05	90.00	4.11
Seed - Burr clover	2 lb.	.49	.98
Perennial rye grass	2	.22	.44
Harding grass	1.5	1.10	1.65
Smilo	.5	1.40	.70
Fertilizer, Ammonium Phosphate 16-20	120 lb.	3.55 cwt.	4.26
Total direct costs			17.00
General expense, estimated at 5% of above			.85
Owner's supervision, including pickup	.07 hr.	4.00	.28
Total cost of conversion			18.13

Total cost of conversion of \$18.13 per acre made this worthless brush land into open range with a value per acre probably around \$30 to \$35 an acre. Mr. Aurignac states the clearing was economical and successful although the seeding and fertilization from the air were not as productive as in other areas where a similar job was being done by ground equipment.