COST OF MANURE FOR FERTILIZER

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The current cost of cattle feedlot manure as fertilizer in the Texas High Plains was determined in July, 1989 in a telephone survey of feedlot manure contractors. The 12 manure contractors collect manure from 48 feedlots with a combined capacity of 1,430,000 head of cattle--a substantial percentage of the total feedlot capacity in the State of Texas.

Farmers that utilize manure for fertilizer can expect to pay an average of $2.14 per ton (ranging from $1.25 to $2.50 per ton) plus 12 cents per ton-mile for collection, loading, hauling, and spreading. A typical farmer will use feedlot manure at 10-ton per acre annual application rate to fertilize irrigated corn, sorghum, or wheat. Therefore, the cost of manure to the average farmer will be $27.40, $33.40, $39.40 and $45.40 per acre, respectively, for one-way haul distances of 5, 10, 15 and 20 miles from the feedlot. The maximum haul distances were reported as 10 miles to "no limit", depending upon price, type of crop, soil and type of truck. Semi trailers were used for longer hauls (usually greater than 15 miles) and most longer hauls were limited to 50 miles.

Most of the manure hauled by the contractor was provided to him by the feedlot free of charge. In some cases the feedlots pay the contractor $0.50 per ton to collect and haul the manure away. Two contractors in the region

south of the Northern High Plains reported having to pay up to $1.00 when the manure was scraped and stockpiled by the feedlot. Usually, the cost or rebate was passed through to the farmer, such that on a $0.50 rebate, the per ton price to the farmer was reduced by $0.50. The contractor's margin, or base price less payment to the feedlot, currently averages $2.03 per ton which is 16% less than 1985 when this survey was previously performed.

Application rates for feedlot manure vary depending upon type of crop, soils, and whether crops are irrigated or dryland. Specific crops being fertilized with feedlot manure and the reported application rates are shown in Table 1. In general, application rates average 11.5 tons per acre per year on an as-received basis (25-40% moisture content) for irrigated crops (excluding alfalfa) and 6.3 tons per acre per year for dryland crops. These rates are generally in accordance with research results previously obtained by the USDA-Agricultural Research Service and the Texas Agricultural Experiment Station at Bushland (west of Amarillo) and conform to typical Extension soil test recommendations. An application rate of 20 tons per acre per year is being used on alfalfa.

In general, the supply of feedlot manure for farmers was reported to be short to adequate because of excess manure and high use in previous years. Rebates enjoyed in previous years are expected to be eliminated or minimized because of the reduced amounts of stockpiled manure.

Economics appear to be the overriding factor in farmer use of manure. When the price of manure is low, use is high, unless a bad crop year has a dampening effect on farmer demand. Such was the case with last year's wheat crop.

Table 1

Feedlot Manure Application Rates on Texas High Plains as Reported by Manure Contractors*

Crop	Irrigated, tons/acre/year		Dryland, tons/acre/year	
	Average	Range	Average	Range
Corn	11.8	8-17	6.4	5-10
Sorghum Grain	11.8	5-20	6.6	5-10
Wheat	11.9	5-20	6.1	5-10
Cotton	10.8	5-15	6.3	5-10
Sugar Beets	10.0	--	--	--
Potatoes	12.5	10-15	--	--
Peanuts	10.7	10-12	--	--
Carrots	12.5	10-15	--	--
Alfalfa	20.0	--	--	--

* 12 contractors handling 48 feedlots with 1,430,000 head capacity

Table 2

1989 Feedlot Manure Cost Survey
Texas Agricultural Extension Service
July, 1989

Contractor No.	No. Feedlots and Total Capacity, Head	Counties Served	Manure Cost to Contractor[1] $/ton	Price to Farmers: Base Price $/ton	Price to Farmers: Hauling Charge $/ton-mile	Haul Distance, one way, miles: 5	10	15	20
						Total Cost Hauled and Spread, $/ton			
Northern High Plains									
1	4-166,000	Dallam Hartley Moore	0.00	2.35	0.09	2.80	3.25	3.70	4.15
2	1-57,000	Hartley	0.00	2.50	0.09	2.95	3.40	3.85	4.30
3	5-179,000	Sherman	0.00	2.50	0.10	3.00	3.50	4.00	4.50
		Moore	0.50[5]	3.00	0.10	3.50	4.00	4.50	5.00
		Lubbock[2] Tom Green[2]	0.00						
4	3-133,000	Moore	0.00	2.35	0.12	2.95	3.55	4.15	4.75
5	9-228,500	Ochiltree Hansford Sherman	0.00	2.25	0.13	2.90	3.55	4.20	4.85
6	3-133,000	Moore	0.00	1.60	0.09	1.85	2.30	2.75	3.20
				1.60	0.12[7]	2.20	2.80	3.40	4.00

Table 2, Continued

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Contractor No.	No. Feedlots and Total Capacity, Head	Counties Served	Manure Cost to Contractor[1] $/ton	Price to Farmers: Base Price $/ton	Price to Farmers: Hauling Charge $/ton-mile	Haul Distance, one way, miles: 5	10	15	20
						Total Cost Hauled and Spread, $/ton			
South of the Northern High Plains									
7	8-296,000	Deaf Smith Randall Parmer Castro Guymon, OK[2]	0.00 <0.50[3]>	2.25[3] 1.75[4]	0.10 0.10	2.75 2.25	3.25 2.75	3.75 3.25	4.25 3.75
8	5-139,500	Parmer Bailey Curry, NM	0.00 1.00[5]	1.50 2.50	0.15 0.15	2.25 3.25	3.00 4.00	3.75 4.75	4.50 5.50
9	3-77,500	Parmer	0.00	1.25 1.50	0.15 0.15	2.00 2.25	2.75 3.00	3.50 3.75	4.25 4.50
10	8-242,500	Parmer Lamb Bailey Sherman[2]	0.00	2.40	0.15	3.15	3.90	4.65	5.40
11	7-234,000	Castro Swisher Floyd	0.00	2.50 2.50	0.10 0.12	3.00 3.10	3.50 3.70	4.00 4.30	4.50 4.90

Table 2, Continued

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						Total Cost Hauled and Spread, $/ton			
12	3-68,000	Hale Lamb Castro	1.00[5]	2.50	0.15	3.25	4.00	4.75	5.50
TOTAL	59-1,954,000[6]	19							
Average			0.11	2.14	0.12	2.74	3.34	3.94	4.54

[1] Payment by contractor to feedlot.
[2] In another region.
[3] Rebate (payment) to contractor by feedlot.
[4] Rebate passed through to the farmer, i.e. $2.25 - $0.50 = $1.75.
[5] Scraped and piled by feedlot personnel and ready for loading by contractor.
[6] These totals are without regard to feedlots serviced by more than one contractor.
[7] Tandem spread trucks/long hauls.