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CONTRACTING DRYLAND OR IRRIGATED ALFALFA HAY

A Strategy for Controlling Risks

Russell F. McDonald, Thomas L. Sporleder and Johnny R. Feagan*

Alfalfa hay prices fluctuate within one production season. The hay producer's earnings depend upon the time he sells the crop, production cost/yield levels, size and quality of the total annual crop, and supply level of competing crops/products (and their respective prices).

What are the alternatives?

The alfalfa hay producer can continue to assume the seasonal risk of fluctuating prices or he can contract a portion of his crop.

Crop contracting is a marketing management technique to reduce seasonal price risks. This production-marketing skill, commonly used by large commercial producers, also has advantages for small producers.

Contract pricing for future delivery moves the producer from the traditional open market to the contract market arena. Contracting, a complex marketing arrangement, requires management skill to insure an optimal contract arrangement.

What is contract pricing?

Contract pricing for future delivery establishes a price for buying or selling crops ahead of actual delivery, and sometimes ahead of actual planting. An

agreement is reached by negotiation. Price, quantity, quality, and time and place of delivery are elements in contract negotiations.

Why use contract pricing?

When the alfalfa hay producer assumes all the price risks, he diminishes his chances of securing a production loan for the crop. Lenders of production loans, recognizing the market risk, require collateral from the borrower to assure loan repayment. A fixed price contract prior to a production loan provides lenders a solid base for the loan. A fixed price and market for the crop assures an income flow to the producer's operation. Market price fluctuations (risk) on that portion of total crop under contract no longer affect the producer or the lender.

How much to contract?

There is no easy answer—it will vary with the economic conditions that affect a given crop production sequence. Each producer must decide whether to speculate on the market price at harvest or to contract for price assurance. If the decision is to contract, a reasonable level is to assign enough of the crop to cover variable costs.

Variable costs are those directly associated with producing the crop; for example, seed, fertilizer, insecticides, labor and harvesting. Fixed costs are incurred whether or not the crop is produced. These include insurance, depreciation on equipment and taxes. Other fixed costs exist, but they are more difficult to identify.

* Extension economist—marketing; associate professor, Texas Agricultural Experiment Station and Department of Agricultural Economics; Extension economist—organization, The Texas A&M University System.

How to use the tables

The following tables show the percent of a crop that will cover variable costs at various price levels and yields. They are purposely broad to apply throughout the alfalfa production areas in the state.

Estimate your alfalfa hay yield per acre in tons. Locate the table that approximates your yield. Using your farm records, determine what your variable costs per acre are for producing alfalfa hay. Locate that figure in the top row of the table. This variable cost figure identifies the appropriate column to use in the body of the table. Locate the expected market contract price on the left hand column of the table. Read across this row to the intersection of the variable cost column previously selected. The number at the point of intersection is the percent of the alfalfa hay crop to contract to cover variable costs of production, given that market price and yield.

If the market price you expect is not shown in the left hand column, choose the next lower price in the table. The percentage given in the table will then slightly overstate the percent of the crop needed to cover all variable costs.

Example: See Table 8.

Given: Yield of irrigated alfalfa hay crop is 5 tons per acre.

Variable cost per acre to produce is \$138.00.

Expected market price (the contract price offered) is \$31.00 per ton.

For the 5 ton per acre yield table, we find that 89 percent of the alfalfa hay crop must be contracted to cover variable production costs.

If it is the producer's policy not to contract more than 50 percent of his crop, the table shows that the alfalfa hay producer must receive \$55.00 per ton to cover variable production costs.

Your county Extension agent will have average cost of production data for your area.

Table 1. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 2.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	30	37	44	51	58	65	72	79	86	93	100	107
Percent of crop													
23	65	80	96										
26	58	71	85	98									
29	52	64	76	88	100								
32	47	58	69	80	91								
35	43	53	63	73	83	93							
38	39	49	58	67	76	86	95						
41	37	45	54	62	71	79	88	96					
44	34	42	50	58	66	74	82	90	98				
47	32	39	47	54	62	69	77	84	91	99			
50	30	37	44	51	58	65	72	79	86	93	100		
53	28	35	42	48	55	61	68	75	81	88	94		
56	27	33	39	46	52	58	64	71	77	83	89	96	
59	25	31	37	43	49	55	61	67	73	79	85	91	97
62	24	30	35	41	47	52	58	64	69	75	81	86	92
65	23	28	34	39	45	50	55	61	66	72	77	82	88
68	22	27	32	38	43	48	53	58	63	68	74	79	84

Table 2. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 3.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	35	43	51	59	67	75	83	91	99	107	115	123
Percent of crop													
23	51	62	74	86	97								
26	45	55	65	76	86	96							
29	40	49	59	68	77	86	95						
32	36	45	53	61	70	78	86	95					
35	33	41	49	56	64	71	79	87	94				
38	31	38	45	52	59	66	73	80	87	94			
41	28	35	41	48	54	61	67	74	80	87	93	100	
44	27	33	39	45	51	57	63	69	75	81	87	93	99
47	25	30	36	42	48	53	59	65	70	76	82	87	93
50	23	29	34	39	45	50	55	61	66	71	77	82	87
53	22	27	32	37	42	47	52	57	62	67	72	77	82
56	21	26	30	35	40	45	49	54	59	64	68	73	78
59	20	24	29	33	38	42	47	51	56	60	65	69	74
62	19	23	27	32	36	40	45	49	53	58	62	66	70
65	18	22	26	30	34	38	43	47	51	55	59	63	67
68	17	21	25	29	33	37	41	45	49	52	56	60	64

Table 3. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 3.5 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	47	55	63	71	79	87	95	103	111	119	127	135
Percent of crop													
23	58	68	78	88	98								
26	52	60	69	78	87	96							
29	46	54	62	70	78	86	94						
32	42	49	56	63	71	78	85	92	99				
35	38	45	51	58	64	71	78	84	91	97			
38	35	41	47	53	59	65	71	77	83	89	95		
41	33	38	44	49	55	61	66	72	77	83	89	94	100
44	31	36	41	46	51	56	62	67	72	77	82	88	93
47	29	33	38	43	48	53	58	63	67	72	77	82	87
50	27	31	36	41	45	50	54	59	63	68	73	77	82
53	25	30	34	38	43	47	51	56	66	64	68	73	77
56	24	28	32	36	40	44	48	53	57	61	65	69	73
59	23	27	31	34	38	42	46	50	54	58	62	65	69
62	22	25	29	33	36	40	44	47	51	55	59	62	66
65	21	24	28	31	35	38	42	45	49	52	56	59	63
68	20	23	26	30	33	37	40	43	47	50	53	57	60

Table 4. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 4.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)													
	Price	56	64	72	80	88	96	104	112	120	128	136	144	152
Percent of crop														
23	61	70	78	87	96									
26	54	62	69	77	85	92	100							
29	48	55	62	69	76	83	90	97						
32	44	50	56	63	69	75	81	88	94	100				
35	40	46	51	57	63	69	74	80	86	91	97			
38	37	42	47	53	58	63	68	74	79	84	89	95	100	
41	34	39	44	49	54	59	63	68	73	78	83	88	93	
44	32	36	41	45	50	55	59	64	68	73	77	82	86	
47	30	34	38	43	47	51	55	60	64	68	72	77	81	
50	28	32	36	40	44	48	52	56	60	64	68	72	76	
53	26	30	34	38	42	45	49	53	57	60	64	68	72	
56	25	29	32	36	39	43	46	50	54	57	61	64	68	
59	24	27	31	34	37	41	44	47	51	54	58	61	64	
62	23	26	29	32	35	39	42	45	48	52	55	58	61	
65	22	25	28	31	34	37	40	43	46	49	52	55	58	
68	21	24	26	29	32	35	38	41	44	47	50	53	56	

Table 6. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 5.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)													
	Price	66	74	82	90	98	106	114	122	130	138	146	154	162
Percent of crop														
23	57	64	71	78	85	92	99							
26	51	57	63	69	75	82	88	94	100					
29	46	51	57	62	68	73	79	84	90	95				
32	41	46	51	56	61	66	71	76	81	86	91	96		
35	38	42	47	51	56	61	65	70	74	79	83	88	93	
38	35	39	43	47	52	56	60	64	68	73	77	81	85	
41	32	36	40	44	48	52	56	60	63	67	71	75	79	
44	30	34	37	41	45	48	52	55	59	63	66	70	74	
47	28	31	35	38	42	45	49	52	55	59	62	66	69	
50	26	30	33	36	39	42	46	49	52	55	58	62	65	
53	25	28	31	34	37	40	43	46	49	52	55	58	61	
56	24	26	29	32	35	38	41	44	46	49	52	55	58	
59	22	25	28	31	33	36	39	41	44	47	49	52	55	
62	21	24	26	29	32	34	37	39	42	45	47	50	52	
65	20	23	25	28	30	33	35	38	40	42	45	47	50	
68	19	22	24	26	29	31	34	36	38	41	43	45	48	

Table 8. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 5.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)													
	Price	114	122	130	138	146	154	162	170	178	186	194	202	210
Percent of crop														
22														
25	91	98												
28	81	87	93	99										
31	74	79	84	89	94	99								
34	67	72	76	81	86	91	95	100						
37	62	66	70	75	79	83	88	92	96					
40	57	61	65	69	73	77	81	85	89	93	97			
43	53	57	60	64	68	72	75	79	83	87	90	94	98	
46	50	53	57	60	63	67	70	74	77	81	84	88	91	
49	47	50	53	56	60	63	66	69	73	76	79	82	85	
52	44	47	50	53	56	59	62	65	68	72	75	78	81	
55	41	44	47	50	53	56	59	62	65	68	71	74	77	
58	39	42	45	48	50	53	56	59	61	64	67	70	72	
61	37	40	43	45	48	50	53	56	58	61	64	66	69	
64	36	38	41	43	46	48	51	53	56	58	61	63	66	
67	34	36	39	41	44	46	48	51	53	55	58	60	63	
70	33	35	37	39	42	44	46	49	51	53	55	58	60	

Table 5. Percentage of dryland produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 4.5 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)													
	Price	61	69	77	85	93	101	109	117	125	133	141	149	157
Percent of crop														
23	59	67	74	82	90	98								
26	52	59	66	73	79	86	93	100						
29	47	53	59	65	71	77	84	90	96					
32	42	48	53	59	65	70	76	81	87	92	98			
35	39	44	49	54	59	64	69	74	79	84	90	95	100	
38	36	40	45	50	54	59	64	68	73	78	82	87	92	
41	33	37	42	46	50	55	59	63	68	72	76	81	85	
44	31	35	39	43	47	51	55	59	63	67	71	75	79	
47	29	33	36	40	44	48	52	55	59	63	67	70	74	
50	27	31	34	38	41	45	48	52	56	60	64	68	72	
53	26	29	32	36	39	42	45	48	51	54	58	62	66	
56	24	27	31	34	37	40	43	46	49	52	55	59	62	
59	23	26	29	32	35	38	40	42	45	48	50	53	56	
62	22	25	28	30	33	35	37	39	42	45	48	51	53	
65	21	24	26	29	32	34	36	38	40	43	45	48	51	
68	20	23	25	28	30	33	36	38	41	43	46	49	51	

Table 7. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 5.5 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)													
	Price	119	127	135	143	151	159	167	175	183	191	199	207	215
Percent of crop														
22	98													
25	87	92	98											
28	77	82	88	93	98									
31	70	74	79	84	89	93	98							
34	64	68	72	76	81	85	89	94	98					
37	58	62	66	70	74	78	82	86	90	94	98			
40	54	58	61	65	69	72	76	80	83	87	90	94	98	
43	50	54	57	60	64	67	71	74	77	81	84	88	91	
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Table 10. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 6.5 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	149	157	165	173	181	189	197	205	213	221	229	237
Percent of crop													
22													
25	92	97											
28	82	86	91	95	99								
31	74	78	82	86	90	94	98						
34	67	71	75	78	82	86	89	93	96	100			
37	62	65	69	72	75	79	82	85	89	92	95	99	
40	57	60	63	67	70	73	76	79	82	85	88	91	94
43	53	56	59	62	65	68	70	73	76	79	82	85	88
46	50	53	55	58	61	63	66	69	71	74	77	79	82
49	47	49	52	54	57	59	62	64	67	69	72	74	77
52	44	46	49	51	54	56	58	61	63	65	68	70	72
55	42	44	46	48	51	53	55	57	60	62	64	66	69
58	40	42	44	46	48	50	52	54	56	59	61	63	65
61	38	40	42	44	46	48	50	52	54	56	58	60	62
64	36	38	40	42	44	45	47	49	51	53	55	57	59
67	34	36	38	40	42	43	45	47	49	51	53	54	56
70	33	35	36	38	40	42	43	45	47	49	50	52	54

Table 12. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 7.5 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	159	167	175	183	191	199	207	215	223	231	239	247
Percent of crop													
22	96												
25	85	89	93	98									
28	76	80	83	87	91	95	99						
31	68	72	75	79	82	86	89	92	96	99			
34	62	65	69	72	75	78	81	84	87	91	94	97	100
37	57	60	63	66	69	72	75	77	80	83	86	89	92
40	53	56	58	61	64	66	69	72	74	77	80	82	85
43	49	52	54	57	59	62	64	67	69	72	74	77	79
46	46	48	51	53	55	58	60	62	65	67	72	74	
49	43	45	48	50	52	54	56	59	61	63	65	67	69
52	41	43	45	47	49	51	53	55	57	59	61	63	65
55	39	40	42	44	46	48	50	52	54	56	58	60	62
58	37	38	40	42	44	46	48	49	51	53	55	57	59
61	35	37	38	40	42	43	45	47	49	50	52	54	56
64	33	35	36	38	40	41	43	45	46	48	50	51	53
67	32	33	35	36	38	40	41	43	44	46	48	49	51
70	30	32	33	35	36	38	39	41	42	44	46	47	49

Table 11. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 7.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	154	162	170	178	186	194	202	210	218	226	234	242
Percent of crop													
22	100												
25	88	93	97										
28	79	83	87	91	95	99							
31	71	75	78	82	86	89	93	97	100				
34	65	68	71	75	78	82	85	88	92	95	98		
37	59	63	66	69	72	75	78	81	84	87	90	93	97
40	55	58	61	64	66	69	72	75	78	81	84	86	89
43	51	54	56	59	62	64	67	70	72	75	78	80	83
46	48	50	53	55	58	60	63	65	68	70	73	75	78
49	45	47	50	52	54	57	59	61	64	66	68	71	73
52	42	45	47	49	51	53	55	58	60	62	64	66	69
55	40	42	44	46	48	50	52	55	57	59	61	63	65
58	38	40	42	44	46	48	50	52	54	56	58	60	62
61	36	38	40	42	44	46	48	50	52	54	55	57	59
64	34	36	38	40	42	43	45	47	49	50	52	54	56
67	33	35	36	38	40	41	43	44	46	48	50	52	53
70	31	33	35	36	38	40	41	43	44	46	48	49	51

Table 13. Percentage of irrigated produced alfalfa hay crop to be contracted to cover variable cost per acre, given expected market price per ton and assumed 8.0 tons per acre yield.

Expected market price per ton	Variable cost per acre (in dollars)												
	Price	186	193	200	207	214	221	228	235	242	249	256	263
Percent of crop													
22	93	97	100										
25	83	86	89	92	96	99							
28	75	78	81	83	86	89	92	95	98	100			
31	68	71	74	76	79	81	84	86	89	92	94	97	99
34	63	65	68	70	72	75	77	79	82	84	86	89	91
37	58	60	63	65	67	69	71	73	76	78	80	82	84
40	54	56	58	60	62	64	66	68	70	72	74	76	78
43	51	52	54	56	58	60	62	64	66	68	70	71	73
46	47	49	51	53	55	56	58	60	62	64	65	67	69
49	45	46	48	50	51	53	55	56	58	60	62	63	65
52	42	44	45	47	49	50	52	53	55	57	58	60	61
55	40	42	43	45	46	48	49	51	52	54	55	57	58
58	38	40	41	42	44	45	47	48	50	51	52	54	55
61	36	38	39	40	42	43	45	46	47	48	50	51	53
64	35	36	37	39	40	41	43	44	45	46	47	49	50
67	33	34	35	36	37	38	39	41	42	43	44	45	46
70	33	34	35	36	37	38	39	41	42	43	44	46	47

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