

**AGR Case Study
Diversified Fruit Farm
Western New York**

Prepared by

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AN ADJUSTED GROSS REVENUE (AGR) INSURANCE ANALYSIS FOR DIVERSIFIED FRUIT FARM WESTERN NEW YORK

Farm Description

- ***Farming History***

This farm has operated as a partnership for the past ten years. One of the partners is the active manager, the other is a “silent” partner. Over the past five years the farm has run between 354 to 414 acres of fruit, with about 56% of the current acreage in apples. Some acreage is owned by the partnership and other acreage is rented from each of the partners as well as other landowners. The man equivalent base (labor utilization) is 12.7 with increases in recent years to 14 – 17 men-equivalents based on crop size and increases in stone fruit acreage.

Since 1988 apples have been replanted at 500 trees per acre with 25% of the farm now in fully dwarfed trees. In recent years all replanting has been to stone fruits (peaches, tart cherries and sweet cherries) at the rate of 5 to 15 acres per year. Ninety percent of the 49 acres of non-bearing fruit is in stone fruit.

The five year average for apples produced is 114,100 bushels, about 480 bushel per acre. Peaches, tart cherries and sweet cherry acreage has increased in the past five years by 20 acres bearing and 40 acres non-bearing. Income from stone fruits is steadily increasing.

- ***Insurance History***

Hail damaged the fruit crop in both 1997 and 1998. In 1999 the farm received both a crop insurance payment and disaster assistance from the 1998 hailstorms. 1998 was the first year the farm “bought-up” from CAT in apple insurance. In 1999, Other Receipts included \$58,408 from crop insurance payments and \$103,286 in disaster aid from the '98 hail events.

- ***Risk Reduction Practices***

The greatest challenges in recent years have been the decline of processed apple prices and the processed apple industry and damage from hail. The operating manager is optimistic about the future of the fruit industry, but is not optimistic about the apple industry. Due to volatile prices, hail damage, and changes in the cropping mix, cash fruit receipts over the past five years that tax records are available have varied from \$438,635 in 1995 to \$733,934 in 1996, a year of good apple yields and record processing apple prices. In the years 1997-1999, fruit receipts have varied from \$644,259 to \$681,928. The grower’s main risk reduction methods has been buying crop insurance and diversifying into crops other than apples.

Application

To be eligible for AGR coverage, the Diversified Fruit Farm must have less than 50% of the allowable income from agricultural commodities purchased for resale and less than 50% of the allowable income from insurable crop & livestock commodities, unless such commodities are insured under other available insurance. Diversified has insured the apple crop (both processing apples and fresh apples) for the 2001 year under MPCl. Normally apples make up more than 50 percent of allowable income. Prior to

applying for AGR coverage, Diversified needs to prepare Form FCIC-18050 – Adjusted Gross Revenue Application Continuous Contract, copies of the tax return forms from five consecutive tax years prior to the year immediately preceding the insurance year (2001) – Form 1040-Schedule F; Form 823-Commodity Profile; Form 821-AGR - Annual Farm Report; and the beginning inventory, AGR Form 822.

Revenue History

To apply for AGR coverage, Diversified must furnish a summary of the cropping history over the five most recent years and five consecutive tax years of allowable income prior to the year immediately preceding the insurance year (2001). The attached AGR – Form 823 – Agricultural Commodity Profile shows the five-year cropping history (1995 – 1999). Note that non-bearing fruit acreage must be included in the Commodity Profile. See Table 1 for Diversified's five-year allowable income and expenses history. Copies of the Form 1040 – Schedule F for the years 1995 through 1999 are also attached to the end of this document.

Table 1. Diversified Fruit Farm's Five-Year Allowable Income and Allowable Expenses History

	<i>Schedule F</i>	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>
Allowable Income						
Sales of animals and other ag commodities bought for resale less the cost or other basis	line 3	0	0	0	0	0
Sales of animals, produce, and other ag commodities raised	line 4 (Adjusted) ¹	438,635	733,934	681,928	644,259	652,132
Taxable amount of total cooperative distributions	line 5b	0	0	0	0	0
Commodity Credit Corporation (CCC) loans	line 7a	0	0	0	0	0
Taxable amount of CCC loans forfeited	line 7c	0	0	0	0	0
Other income - exclude gas/fuel tax credits	line 10	20,320	14,444	8,964	41,194	23,829
Total Allowable Income		458,955	748,378	690,892	685,453	675,961
Allowable Expenses						
The cost of items bought for resale	line 2	0	0	0	0	0
Car and truck expenses	line 12	0	0	0	0	0
Chemicals	line 13	42,007	134,485	118,315	151,655	85,622
Conservation	line 14	0	0	0	0	0
Custom hire (machine work)	line 15	18,600	18,600	3,300	0	2,500
Depreciation and Sect. 179 exp. Incl. Only the dep. Allowed for animals.	line 16 (Adjusted) ²	0	0	0	0	0
Feed purchased	line 18	0	0	0	0	0
Fertilizer and lime	line 19	8,000	12,252	20,000	1,025	5,000
Freight and trucking	line 20	0	0	0	0	0
Gasoline, fuel and oil	line 21	16,294	16,103	17,130	12,711	13,873
Insurance (other than health)	line 22	9,273	9,645	8,652	9,763	8,545
Labor hired (less employment credits)	line 24 (Adjusted) ³	276,618	327,230	276,982	364,111	406,297
Repair and maintenance	line 27	50,034	56,776	49,639	56,853	40,863
Seeds and plants purchased	line 28	0	0	0	2,283	0
Storage and warehousing	line 29	18,624	16,500	21,750	18,485	44,818
Supplies purchased ⁴	line 30 (Adjusted) ⁴	20,861	26,760	23,054	18,874	11,269
Utilities	line 32	5,561	6,309	5,076	7,255	5,400
Veterinary, breeding, and medicine	line 33	0	0	0	0	0
Other farm expenses	line 34	2,599	12,516	18,169	39,890	16,403
Total Allowable Expenses		468,471	637,176	562,067	682,705	640,590

¹ Gross income adjusted for added value received for post-production operations such as processing, packing, packaging, etc.

² Include only the amount of depreciation allowed for animals.

³ Exclude share holder wages if reported on this line.

⁴ Exclude those used in post-production value added operations such as processing, packing, packaging, etc.

AGR Calculation

To determine the revenue that will be covered by the AGR insurance plan, the average of the allowable income for the five consecutive years prior to the year immediately preceding the insurance year needs to be calculated. (Note: the trend adjustment may be used if the allowable income in one of the last two years is greater than the average allowable income of the five years.) Because Diversified's allowable income of the two most recent years (1998 & 1999) are greater than the average, a trend adjustment may be employed to "Adjust" the Gross Revenue for insurance purposes. The adjustment to the average gross revenue (indexed average AGR) is carried out as follows:

- Divide each tax year's allowable income by the preceding tax year's allowable income. The factor may not exceed 1.200 (20% cap) or be less than 0.800 (20% cup). Therefore:

	<u>Indexed factor</u>
1. 1996 allowable income \$748,378 /1995 allowable income \$458,955 = 1.631	1.200
2. 1997 allowable income \$690,892 /1996 allowable income \$748,378 = .923	.923
3. 1998 allowable income \$685,453 /1997 allowable income \$690,892 = .992	.992
4. 1999 allowable income \$675,961 /1998 allowable income \$685,453 = .986	.986
5. Average Indexed Factor = 1.025	
6. Income Trend Factor = (Average Indexed Factor) ⁴ = 1.025 ⁴ = 1.105	
7. The Adjusted Revenue = Average Allowable Income x Income Trend Factor = \$651,928 x 1.105 = \$720,636	
8. The Adjusted Approved Expenses = Average Allowable Expenses x 1.239 = \$741,228.	

The average allowable expenses must also be adjusted by the trend, using the same method for allowable expenses as was used for allowable income. The trend adjustment factor for expenses is $(1.055)^4 = 1.239$.

The attached Annual Farm Report (Form 821-AGR) also contains Diversified's estimate of acreage, yields, and prices for the insurance year. Insurance levels will be based on the *lesser* of the Adjusted Revenue or the Expected Income from the Intended Commodity Report. Diversified's expected income from the Intended Commodity Report is \$744,602. Therefore, the approved AGR is \$720,636.

Possible Coverage Elections

Amount of Coverage: The amount of AGR coverage will be elected by the insured. The options are as follows:

1. 80/75 = 80% coverage level with a 75% payment rate.
2. 75/75 = 75% coverage level with a 75% payment rate
3. 65/75 = 65% coverage level with a 75% payment rate
4. 80/90 = 80% coverage level with a 90% payment rate.
5. 75/90 = 75% coverage level with a 90% payment rate
6. 65/90 = 65% coverage level with a 90% payment rate

Diversified qualified for the two higher coverage amount (80% and 75%) the initial year because it meets the diversification requirements. The calculations are as follows:

Diversification Formula = $(1 \div \text{the number of commodities to be produced} \times 0.33) \times (\text{the total expected income for the insurance year}) = (1 \div 7 \times 0.33) \times (\$744,602) = \$35,071$.

- For 80% coverage, at least four agricultural commodities will be produced whose expected income for the insurance year is equal to or greater than the amount determined by the formula (\$35,071).

- For 75% coverage, at least two agricultural commodities will be produced whose expected income for the insurance year is equal to or greater than the amount determined by the formula (\$35,071).

Diversified has five crops for which the expected income exceeds \$35,071: fresh apples, processing apples, sweet cherries, tart cherries, and peaches. (See AGR Form 821, p. 10.)

AGR losses begin with when the income to count for the insurance year is less than the product of multiplying the percentage for the coverage level elected times the Approved AGR. The payment rate is the percentage of the revenue deficiency that will then be paid by the insurance provider.

• **Diversified Fruit 's insurance scenarios are as follows:**

Elected coverage	Coverage level	Payment rate	Approved AGR	Loss payment begin at when income lower than
80/75	80%	75%	\$ 720,636	\$ 576,509
75/75	75%	75%	\$ 720,636	\$ 540,477
65/75	65%	75%	\$ 720,636	\$ 468,413
80/90	80%	90%	\$ 720,636	\$ 576,509
75/90	75%	90%	\$ 720,636	\$ 540,477
65/90	65%	90%	\$ 720,636	\$ 468,413

Annual Premium and Administrative Fee

RMA will offer a cost-share program as an incentive to producers in eleven underserved northeastern states to purchase AGR insurance. It will be available to New York producers located in the following counties - Cayuga, Chautauqua, Erie, Genesee, Monroe, Niagara, Onondaga, Ontraio, Orange, Orleans, Oswego, Seneca, Suffolk, Ulster, Wayne, and Yates.

Under this cost-share program, RMA will share in 50 percent of the premium cost of a producer's AGR policy. This 50 percent cost-share will be calculated on the premium remaining after the standard premium subsidy for AGR, as authorized under section 508 (e) of the Federal Crop Insurance Act, is applied. In addition, RMA will pay the entire administrative fee (\$30 per policy) for producers who purchase AGR policies in the eligible states and counties. **The sales closing date for all states with AGR insurance is January 31, 2001.** Information needed to calculate the annual premium includes five-year allowable income and allowable expenses prior to the year immediately preceding the insurance year and the intended commodity list for the insurance year.

The Event of Damage or Loss

Insurance is provided against loss of revenue due to any unavoidable peril that causes a loss in revenue during the current insurance year. In the event of probable loss, the insured farm must provide the followings:

- A notice of loss within 72 hours of the initial discovery that the allowable income for the insurance year could fall below the amount determined by the coverage level elected. Such notice will not be accepted later than 15 days after the filing of farm tax forms for the insurance year;
- A copy of the farm tax forms and any amendments for the insurance year and any additional documentation required to convert the allowable income and allowable expenses for the insurance year to an *accrual accounting method*.

Diversified Fruit Farm has to file the AGR – Form 822 – Inventory and Accounts Receivable Report because it does have agricultural commodity inventory or account receivables at the beginning and the end of the insured year. The AGR – Form 822 is required to calculate allowable income to count on an accrual basis when an indemnity is claimed.

- When an insured's accounts receivables increase, cash basis allowable income for the insurance year will be increased by the increase in accounts receivables.
- When an insured's accounts receivables decrease, cash basis allowable income for the insurance year will be decreased by the decrease in accounts receivables.

Similar adjustments will be made for beginning and ending crop inventories for the insured year.

If the allowable expenses for the insurance year fall below 70% of the approved expenses, reduce the result of approved AGR by 0.1% for each 0.1% the allowable expenses for the insurance year fall below 70% of the approved expenses.

Loss Scenarios:

Table 2 shows the possible revenue losses, insurance payments, and corresponding revenues assuming that the allowable expenses for the insurance year did not fall below 70% of the approved expenses.

Table 2 Income Scenarios When Income Loss Occurs Under AGR Insurance

Revenue Loss	No Insurance	Coverage Election					
		80/75		75/75		65/75	
	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>
				<u>Dollars (\$)</u>			
20%	576,509	0	576,509	0	576,509	0	576,509
30%	504,445	54,048	558,493	27,027	531,469	0	504,455
40%	432,382	108,095	540,477	81,072	513,453	27,024	459,405
50%	360,318	162,143	522,461	135,119	495,437	81,072	441,390
60%	288,254	216,191	504,445	189,167	477,921	135,119	423,374
70%	216,191	270,239	486,429	243,215	459,405	189,167	405,358
80%	144,127	324,286	468,413	297,262	441,390	245,215	387,342
90%	72,064	378,334	450,398	351,310	423,374	297,262	369,326
100%	0	432,382	432,382	405,358	405,358	351,310	351,310
Revenue Loss		80/90		75/90		65/90	
		<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>
				<u>Dollars (\$)</u>			
20%	576,509	0	576,509	0	576,509	0	576,509
30%	504,445	64,857	569,302	32,429	536,874	0	504,445
40%	432,382	129,714	562,096	97,286	529,667	32,429	464,810
50%	360,318	194,572	554,890	162,143	522,461	97,286	457,604
60%	288,254	259,429	547,683	227,000	515,255	162,143	450,398
70%	216,191	324,286	540,477	291,858	508,048	227,000	443,191
80%	144,127	389,143	533,271	356,715	500,842	291,858	435,985
90%	72,064	454,001	526,064	421,572	493,636	356,715	428,778
100%	0	518,858	518,858	486,429	486,429	421,572	421,572

Assuming the allowable expenses are lower because of reduced expenses for harvesting, gas and oil, utilities, etc., due to crop loss. Assume the allowable expenses for the policy falls to \$481,798 or 65 percent of approved expenses (\$741,228). The allowable expenses are 5 percent less than 70 percent. Therefore, the Approved AGR (\$720,636) is reduced by 5 percent to \$684,604.¹

Table 3 shows the possible income losses, insurance payments adjusted for lower allowable expenses (assuming 65% of approved expenses), and corresponding revenues.

Table 3 Income Scenarios When Income Loss Occurs and Allowable Expenses Falls Below 70% of Approved Expenses Under AGR Insurance

Revenue Loss	No Insurance	Coverage Election					
		80/75		75/75		65/75	
	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>
				<u>Dollars (\$)</u>			
20%	576,509	0	576,509	0	576,509	0	576,509
30%	504,445	32,429	536,874	6,756	511,201	0	504,445
40%	432,382	86,476	518,858	60,804	493,185	9,458	441,840
50%	360,318	140,524	500,892	114,851	475,169	63,506	423,824
60%	288,254	194,572	482,826	168,899	457,153	117,554	405,808
70%	216,191	248,619	464,810	222,947	439,137	171,601	387,792
80%	144,127	302,667	446,794	276,994	421,122	225,649	369,776
90%	72,064	356,715	428,778	331,042	403,106	279,697	351,760
100%	0	410,762	410,762	385,090	385,090	333,744	333,744
Revenue Loss		80/90		75/90		65/90	
		<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>	<i>Payment</i>	<i>Revenue</i>
				<u>Dollars (\$)</u>			
20%	576,509	0	576,509	0	576,509	0	576,509
30%	504,445	38,914	543,359	8,107	512,552	0	504,445
40%	432,382	103,771	536,153	72,964	505,346	11,350	443,732
50%	360,318	168,629	528,947	137,822	498,140	76,207	436,525
60%	288,254	233,486	521,740	202,679	490,933	141,064	429,319
70%	216,191	298,343	514,534	267,536	483,727	205,922	422,112
80%	144,127	363,200	507,328	332,393	476,520	270,779	414,906
90%	72,064	428,058	500,121	397,250	469,314	335,636	407,700
100%	0	492,915	492,915	462,108	462,108	400,493	400,493

¹ If the indexed coverage AGR's are used for allowable income, then indexed allowable expenses will be used to calculate the approved allowable expenses in order to determine the threshold for reducing the approved AGR when allowable expenses are less than 70% of approved expenses.

Attachments

Diversified Fruit Farm's Five-Year Cropping History

UNITED STATES DEPARTMENT OF AGRICULTURE Federal Crop Insurance Corporation AGRICULTURAL COMMODITY PROFILE – FORM 823																				
PART I – PRODUCER INFORMATION																				
Diversified Fruit Farm																				
CROP OR COMMODITY	TAX YEAR 1995				TAX YEAR 1996				TAX YEAR 1997				TAX YEAR 1998				TAX YEAR 1999			
	Acres	Market	%	Irr. Prac.	Acres	Market	%	Irr. Prac.	Acres	Market	%	Irr. Prac.	Acres	Market	%	Irr. Prac.	Acres	Market	%	Irr. Prac.
Fresh apples	168.7	W ¹	100	No	207.0	W ¹	100	No	128.9	W ¹	100	No	214.0	W ¹	100	No	214.0	W ¹	100	No
Fresh apples (non-bear)	8.0				8.0				8.0				4.3				4.3			
Processing apples	35.0	P ²	100	No	40.0	P ²	100	No	120.1	P ²	100	No	32.2	P ²	100	No	27.2	P ²	100	No
Sweet cherries	39.7	W	100	No	35.8	W	100	No	31.0	W	100	No	25.9	W	100	No	25.9	W	100	No
Sweet cherries (non-bear)	1.0				8.9				12.7				8.0				8.0			
Tart cherries	56.0	P	100	No	45.0	P	100	No	45.0	P	100	No	69.8	P	100	No	69.8	P	100	No
Tart cherries (non-bear)	0.0				7.0				4.9				4.9				4.9			
Peaches	37.0	W/R ³	50/50	No	29.7	W/R ³	50/50	No	21.4	W/R ³	50/50	No	36.7	W/R ³	50/50	No	50.0	W/R ³	50/50	No
Peaches (non-bear)	0.0				6.0				13.2				29.7				29.7			
Pears	3.0	P	100	No	3.0	P	100	No	3.0	P	100	No	7.3	P	100	No	7.3	P	100	No
Plums and prunes	5.3	R	100	No	6.0	R	100	No	6.0	R	100	No	10.9	R	100	No	10.9	R	100	No
Plums and Prunes (non-bear)	0.0				0.0				1.6				1.6				1.6			

¹ W – Wholesale

² P – Processing

³ R – Retail

UNITED STATES DEPARTMENT OF AGRICULTURE

Federal Crop Insurance Corporation

ANNUAL FARM REPORT – Form 821

PRODUCER INFORMATION			INTENDED COMMODITY REPORT					
Diversified Fruit Farm								
ADJUSTED GROSS REVENUE (AGR) REPORT			INTENDED COMMODITY REPORT					
Tax Year	Allowable Income	Allowable Expenses	Commodity Name/Code	# Years Produced	Intended Amount	Total Amount	Expected Value	Dollars
1995	468,955	468,471	Fresh apples 0853	10	214.0 acres	74,900 bushels	\$ 5.50	\$411,960
1996	748,378	637,176	Wholesale					
1997	690,892	562,067	Processing apples 0854					
1998	685,453	682,905	Processing	10	27.2 acres	29,920 bushels	\$ 3.05	91,256
1999	675,961	640,590						
			Sweet cherries 0099					
TOTAL	3,259,639	2,991,209	Wholesale	10	25.9 acres	129.500 pounds	\$ 0.40	51,800
AVERAGE	651,928	598,242						
			Tart cherries 0100					
Adjustment			Processing	10	69.8 acres	432,760 pounds	\$ 0.18	77,897
1996/1995	1.631	1.200						
1997/1996	0.923	0.923	Peaches 0923					
1998/1997	0.992	0.992	Wholesale	10	50.0 acres	7,500 bushels	\$ 11.76	88,125
1999/1998	0.986	0.986	Retail					
			Pears 0089					
Total		4.101	Processing	10	7.3 acres	1,825 bushels	\$ 5.75	10,494.
Average adj.		1.025						
Income trend factor		1.105	Plums 0092 and					
Adjustment	720,636	= AVE *Income trend factor	prunes 0036					
			Retail	10	10.9 acres	1,090 bushels	\$ 12.00	13,080
Preliminary AGR	720,636							
Approved AGR	720,636	= lesser of B30 or I14	Total Number Commodities	7		Total Expected Income		\$ 744,602
Total Expected income	744,602							
Trend adj.	741,228							
Approved exp.								

Schedule F**Profit or Loss From Farming****1996**

Accounting method Cash

Part 1 Farm income-Cash Method

Sales of livestock and other items you bought for resale	0
Cost or other basis of livestock and other items reported on line 1	0
Subtract line 2 from line 1	0
Sales of lvstck, produce, grains and other products you raised	733,934
Total cooperative distributions	0
Agricultural program payments	0
CCC loans	0
Crop insurance proceeds and certain disaster payments	
Amount received in 1996	0
Amount deferred from 1995	0
Custom hire (machine work) income	14,023
Other income inc. Fed. And State gasoline or fuel tax credit or refund	14,444
Gross Income	762,401

Part 2 Farm Expenses

Car and truck expenses	0	Pension and profit-sharing plans	0
Chemicals	134,485	Rent or lease	
Conservation expenses	0	Vehicles	0
Custom hire (machine work)	18,600	Other (land)	1,500
Depreciation	16,688	Repairs and maintenance	56,776
Employee benefit programs	0	Seeds and plants purchased	0
Feed purchased	0	Storage and warehousing	16,500
Fertilizer and lime	12,252	Supplies purchased	26,760
Freight and Trucking	0	Taxes	11,278
Gasoline, fuel, and oil	16,103	Utilities	6,309
Insurance (other than health)	9,645	Veterinary, breeding, medicine	0
Interest:		Other Expenses (specify)	
Mortgage (pd. To banks,etc)	38,298	<i>misc.</i>	12,516
Other	0	<i>Mktg.,selling exp</i>	0
Labor	327,230	<i>Crop ins.</i>	0
hired			

Total Expenses 704,940**Net Farm Profit or (loss)** 57,461

