



# Western Beef Development Centre

## Can The Feedlot Industry Expect Assistance From CAIS?

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### Introduction

This article explains how an expanding backgrounding operation may have a larger CAIS reference margin than originally expected. Section I describes how a reference margin is calculated. Section II discusses how filing your margins in the reference years using the modified accrual accounting option (MAAO) vs. the cash option can potentially make your reference margin larger. Section III explains how increasing the size of your feeding operation in the past few years can also result in a larger reference margin and thus greater support from CAIS.

### Example Scenario

Bill operates a backgrounding operation near Steinbach, MB (RM of Hanover). In the past number of years, his operation has been growing in size. **Table 1** lists the number of feeder cattle sold and the acres of silage “put up” to feed these calves for each of the past six years. All feed barley and straw is purchased from surrounding neighbours.

Bill typically purchases 500 lb. steer calves in the fall and sells them in late May weighing 800 lbs/head. In 2003, Bill was scheduled to sell his calves on May 25<sup>th</sup>. BSE was found on May 20<sup>th</sup> and most “sale barns” closed for the summer. Bill eventually sold his steers to a cattle dealer in early July. The steers weighed 875 lbs and sold for \$0.85/lb. Bill did not make out well financially on this particular turn of calves given they were “laid in the yard” in late December 2002 weighing 500 lbs @ \$1.30/lb.

Bill’s accountant told him to participate in CAIS because he may qualify for some support payments. Bill is still uncertain if he will participate given his CAIS options notice stated his estimated reference margin was negative. However, he has not yet realized; 1) he can file his reference margin using the modified accrual accounting option (MAAO) and 2) structural adjustments will be made to his margins from 1998 - 2002, given his operation’s expanding productive capacity.

**Table 1. Bill’s Productive Capacity 1998 - 2003**

Year	1998	1999	2000	2001	2002	2003
# of Feeder Cattle Sold Weighing < 900 lbs/head	800	1000	1200	1400	1600	1800
# of Acres Forage Production (Silage)	225	275	325	375	425	475

### Section I – Calculating the Reference Margin of a Feedlot Step #1

For individuals with five years of farming history the 2003 reference margin is calculated via the “Olympic Average,” meaning the high and low margin years between 1998 – 2002 are disregarded and the three remaining years of margin are averaged. Bill’s margins from 1998 – 2002 are listed below. The options notice sent to Bill indicated his reference margin was -\$80,704. These margins were calculated on a cash accounting system, i.e. CAIS eligible cash income less CAIS eligible cash expenses.

1998: -\$90,639      1999: -\$94,728      2000: -\$87,001      2001: -\$61,348      2002: -\$64,473

### Section II - Modified Accrual Accounting Option (MAAO)

If Bill were to file his margins from 1998 – 2002 using the MAAO it will likely increase his 2003 reference margin, given MAAO recognizes Bill’s increased inventory from beginning to end of each year. Recognition of the increased inventory is important, as it offsets the expansion costs of purchasing additional feeder cattle each year and the associated increase in feed inventory needed for these animals.

## Calculating the MAAO Reference Margin Step #2

In order for Bill to file his past five years of margins using MAAO, he must have a record of beginning and ending inventories for all cattle, feed, purchased inputs, etc., as well as changes in accounts payable and receivable. Bill must also have a record of land base and feedlot production for these years. For simplicity, we will assume Bill's purchased inputs as well as accounts receivable and payable remained constant throughout 1998 - 2002.

Listed below in **Table 2** are Bill's inventories for 1998 - 2002. For most producers, CAIS pre-determines the inventory values of their cattle for each individual year as described in the MAAO price list. CAIS does not recognize changes in the market value of cattle from beginning to end of year, rather they multiply the change in quantity of inventory from beginning to end of year by a year-end price. In Bill's example, CAIS uses the December year-end price for each year, given his year-end is December 31<sup>st</sup>.

**Table 2. Bill's Inventory 1998 - 2002**

Year: 1998	A	B	B - A = C	D	C X D = E
	Beginning	Ending			
Category	Quantity	Quantity	Change in Quantity	Fair Market Value	Change in Inventory Value
Steers 5-600 lbs	800	1,000	200	\$650	\$130,000
Silage (T)	1,000	1,200	200	\$24	\$4,800
Feed Barley (T)	400	450	50	\$91	\$4,550
Straw (T)	300	330	30	\$20	\$600
				<b>Total Value Change</b>	<b>\$139,950</b>
Year: 1999	A	B	B - A = C	D	C X D = E
	Beginning	Ending			
Category	Quantity	Quantity	Change in Quantity	Fair Market Value	Change in Inventory Value
Steers 5-600 lbs	1,000	1,200	200	\$750	\$150,000
Silage (T)	1,200	1,400	200	\$20	\$4,000
Feed Barley (T)	450	525	75	\$72	\$5,400
Straw (T)	330	400	70	\$20	\$1,400
				<b>Total Value Change</b>	<b>\$160,800</b>
Year: 2000	A	B	B - A = C	D	C X D = E
	Beginning	Ending			
Category	Quantity	Quantity	Change in Quantity	Fair Market Value	Change in Inventory Value
Steers 5-600 lbs	1,200	1,400	200	\$840	\$168,000
Silage (T)	1,400	1,635	235	\$24	\$5,640
Feed Barley (T)	525	605	80	\$91	\$7,280
Straw (T)	400	450	50	\$20	\$1,000
				<b>Total Value Change</b>	<b>\$181,920</b>
Year: 2001	A	B	B - A = C	D	C X D = E
	Beginning	Ending			
Category	Quantity	Quantity	Change in Quantity	Fair Market Value	Change in Inventory Value
Steers 5-600 lbs	1,400	1,600	200	\$790	\$158,000
Silage (T)	1,635	1,860	225	\$32	\$7,200
Feed Barley (T)	605	700	95	\$121	\$11,495
Straw (T)	450	504	54	\$25	\$1,350
				<b>Total Value Change</b>	<b>\$178,045</b>
Year: 2002	A	B	B - A = C	D	C X D = E
	Beginning	Ending			
Category	Quantity	Quantity	Change in Quantity	Fair Market Value	Change in Inventory Value
Steers 5-600 lbs	1,600	1,800	200	\$730	\$146,000
Silage (T)	1,860	2,200	340	\$40	\$13,600
Feed Barley (T)	700	775	75	\$160	\$12,000
Straw (T)	504	575	71	\$30	\$2,130
				<b>Total Value Change</b>	<b>\$173,730</b>

### Step #3

To calculate each of Bill's MAAO margins from 1998 - 2002, his annual change in inventory values (Column E of **Table 2**) will be added to the cash margins CAIS originally calculated in his options notice. Column C of **Table 3** illustrates this calculation.

**Table 3. Bill's Modified Accrual Accounting Option Margins**

Year	A	B	A + B = C
	Cash Margins	Inventory Value Changes	MAAO Margins
1998	-\$90,639	\$139,350	\$49,311
1999	-\$94,728	\$160,800	\$66,072
2000	-\$87,001	\$181,920	\$94,919
2001	-\$61,348	\$178,045	\$116,697
2002	-\$64,473	\$173,730	\$109,257

### Step #4

CAIS then applies the Olympic Average rule to Bill's MAAO margins from 1998 – 2002 to calculate his 2003 MAAO reference margin of \$90,083, which will further increase once CAIS considers the change in productive capacity of his operation during the past few years.

## Section III - Changes in Productive Capacity

CAIS refers to the expansion or downsizing of a farming operation as a change in the operation's **productive capacity**. **CAIS monitors changes in productive capacity of an operation because it attempts to simulate each of the producer's past years of margin to have the same level of productive capacity as the claim year (2003 in this example)**. There are indicators CAIS uses to monitor changes in the productive capacity of the farming operation. For cattleman some of these indicators include seeded acres of crops and forages, as well as the number of breeding females calving during the year. For feedlots purchasing and selling feeder cattle, sales of feeder cattle above and below 900 lbs/head are also recognized. Changes in productive capacity are measured by what is called a **structure calculator**.

## Calculating Changes in Productive Capacity

### Step #5

When Bill sends in his claim for 2003, CAIS will compare his productive capacity from 1998 – 2002 vs. 2003, to determine if there have been any changes. In Bill's operation there has been a change in productive capacity as the number of feeder cattle sold weighing less than 900 lbs/hd has increased from 800 in 1998 to 1800 in 2003 and the number of acres used for silaging has increased from 225 in 1998 to 475 in 2003 (refer to **Table 1**).

### Step #6

CAIS then multiplies each year's difference in feeder cattle sold weighing less than 900 lbs/head and acres used for forage production versus 2003 production levels by corresponding **benchmarks per unit (BPU)**. A BPU is the average margin earned for the commodity in question for each individual reference year. There are BPU's calculated for all provinces and for all indicators recognized by CAIS (some are calculated on a regional scope and some on a provincial scope). The Manitoba BPU per feeder calf sold weighing less than 900 lbs/hd and BPU per forage acre in the RM of Hanover from 1998 – 2002 are listed in **Table 4**.

**Table 4. BPU's Applicable to Bill**

Year	1998	1999	2000	2001	2002
BPU Per Feeder Sold < 900 lbs/head	\$24.92	\$15.74	\$42.30	\$39.99	\$28.79
BPU Per Forage Acre	\$88.11	\$144.90	\$96.17	\$111.43	\$85.61

### Step #7

The difference in the number of feeder calves sold weighing less than 900 lbs/hd multiplied by the corresponding BPU and the difference in the number of forage acres multiplied by the corresponding BPU are then both added to the MAAO margin calculated for Bill in each individual reference year. Therefore, the following calculations in **Table 5** are applied to each of Bill's margins from 1998-2002. Column H of Table 5 indicates Bill's new margins for each year after the MAAO option has been chosen and structural adjustments for increased productive capacity applied.

**Table 5. Bill's Adjusted Margins After Considering Productive Capacity Changes**

	A	B	C	D = B X C	E	F	G = E X F	H = D + G
		Difference in	BPU/	Feeder	Difference in		Forage	Structurally
Year	MAAO	Feeders Sold < 900 lbs/hd	Feeder Sold	Structural	Forage Acres	BPU/	Structural	Adjusted
	Margin	vs. 2003	< 900 lbs/hd	Adjustment	vs. 2003	Forage Acre	Adjustment	MAAO Margins
1998	\$49,311	1000	24.92	\$24,920.00	250	\$88.11	\$22,027.50	\$96,258.50
1999	\$66,072	800	15.74	\$12,592.00	200	\$144.90	\$28,980.00	\$107,644.00
2000	\$94,919	600	\$42.30	\$25,380.00	150	\$96.17	\$14,425.50	\$134,724.50
2001	\$116,697	400	\$39.99	\$15,996.00	100	\$111.43	\$11,143.00	\$143,836.00
2002	\$109,257	200	\$28.79	\$5,758.00	50	\$85.61	\$4,280.50	\$119,295.50

### Step #8

CAIS now again applies the "Olympic Average" rule to arrive at Bill's newly adjusted 2003 MAAO reference margin of \$120,555 (Column H of **Table 5**).

### Step #9

Finally, if CAIS detects more than a 5% change and \$1,000 difference between the structurally adjusted MAAO reference margin of \$120,555 and the unadjusted MAAO reference margin of \$90,083, the structural calculation is applied. In this case both criteria would be met and Bill's newly adjusted MAAO reference margin would be \$120,555, which is significantly larger than the estimated reference margin of -\$80,704 stated on his original options notice.

### Closing

If you are a cattle feeder who has been expanding your operation in the past few years, the structure calculator and MAAO have the potential to significantly increase your reference margin beyond what is stated on your CAIS options notice. CAIS has extended its deadlines to participate in the 2003 and 2004 programs to November 30, 2004; therefore anyone who has not yet joined CAIS should at least re-consider their participation in the program.

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