Consolidated Alternative Class 4b Whey Pricing Alternatives

March 11, 2008

The proposals from our 3 teams are presented (in their entirety) in a comparative format with 8 options for your review. Please read through all of the alternatives carefully. I have left space for note taking.

Our March 11th Agenda will begin with a review & questions for understanding of all alternatives presented here, followed by developing alternative whey pricing decision evaluation criteria

Whey Sub-Committee: Branagh, Paris, Schiek, Souza, and Wegner		
Alternative 1	**Alternative 2**	**Alternative 3**
Description: Class 4b formula would contain a whey factor that would involve sharing of whey revenues between producer and processors, but the contribution of the whey factor to the Class 4b price would be floored at zero and capped at around $0.55 per cwt. (50 cents per pound whey price).	**Description:** The Class 4b formula would include a whey factor that would select the lower of the western dry whey or WPC 34 protein values and utilize that value less a make allowance multiplied by a yield factor as the whey contribution to the Class 4b price	**Description:** The Class 4b formula would include a fixed whey factor that changes in stepwise fashion for various whey price ranges. Above a certain whey price level the whey contribution would not change. That is, there would be a maximum contribution. Below a certain price level, the contribution would be snubbed at zero.

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Formula construction:

1. Use Western Dry Whey price mostly midpoint less a make allowance of 31 cents per pound (most recent CDFA survey).
2. Multiply the result of the price less the yield by 2.9, which is half the yield (5.8) that was used in the previous formula prior to 12/07. This yield factor produces a result that is mathematically identical to the 50% sharing proposal put forth by Land O' Lakes at the June 2006 Class 4a/4b hearing.
3. The maximum dry whey price that could be used in this calculation would be $0.50 per pound, so if the market price went above that level, a value of $0.50 would be substituted for the whey price in the formula.
4. If the whey price dropped below 31 cents the contribution to the formula would be snubbed at zero so that the whey factor would not be a negative impact on the milk price.
5. As an alternative to the dry whey price, both the western dry whey and WPC-34 prices could be expressed on a pound of protein basis (divide dry whey price by 0.12 and WPC by 0.34). The lower of the two values would

Formula Construction:

1. Obtain monthly dry whey and WPC 34% prices (Dairy Mkt. News)
2. Obtain per pound protein prices for each
   a. Divide dry whey price by 13% (or 0.13)
   b. Divide WPC 34% price by 34% (or 0.34)
3. Choose lower of (1) OR (2) above
4. Multiple the lower of by 13% (or 0.13) to obtain a "derived dry whey value"
5. Incorporate into Class 4b whey formula
   a. (Lower of "derived dry whey value" – dry whey make allowance) * 5.8 yield

Dry whey make allowance options:

- Maintain previous $0.267 per pound (For the purpose of initial calculations, this make allowance was used)
- Use the nonfat dry milk make allowance as a base and add a differential based on a fixed or percentage difference from NFDM cost.

Formula Construction:

1. Use the NASS dry whey price (although the concept could also be implemented with a lower-of dry whey or WPC-34 on a pound of protein basis).
2. For dry whey prices less than 27 cents, add nothing to the 4b price
   For dry whey prices > 27 cents and <= 37 cents, add 10 cents/ cwt.
   For dry whey prices > 37 cents and <= 50 cents add 25 cents/cwt.
   For dry whey prices > 50 cents add 40 cents/cwt.

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then be selected and multiplied by 0.12 to express the value on a dry whey equivalent price basis. This new value could be used in the formula in place of the western dry whey price.		
Other potential modifications raised by the group: cap could be replaced by a lower percentage contribution at higher prices.	**Other potential modifications raised by the group:** Whey factor could have a lower yield to allow for some sharing of whey revenues between producers and processors above the make allowance. A cap and /or floor could be implemented to prevent whey contribution from going above some specified level or below zero.	**Other potential modifications raised by the group:** Different break points, contributions, or limits could be used.
PROS: • Shares whey revenue with both producers and processors • Gives processors the opportunity to invest in whey facilities • Higher make allowance and cap gives some protection to smaller cheesemakers • Floor protects producer from low whey prices • Whey's contribution moves with the dry whey market prices until the ceiling of 50 cents	**PROS:** • Provides sharing of revenues between producers and processors • Prevents price inversion problem between dry whey and WPC • Keeps California in closer alignment with federal order prices • Broadening the base product mix used to determine whey values • Whey's contribution moves with the market price of whey products	**PROS:** • Relative to the current formula, this proposal moves the milk price *somewhat* with the whey market in a muted sort of way. • Provides protection for small cheesemakers in high whey markets • Provides producer protection in low whey markets. • It could broaden product base if you use the lower of WPC/dry whey option

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Cons: • Limits contribution to producers in high whey markets • Make allowance presents a long term problem due to paucity of whey cost data	**Cons:** • Exposes small cheesemakers to risk of high cheese markets • Make allowance updates could still be problematic	**Cons:** • Limits producer benefit from high whey markets • Breakpoints and contributions somewhat arbitrary

Whey sub-committee: Hofferber, Jeter, Tollenaar, and Vanden Heuvel

Current realities:

- California is in a significant plant capacity deficit position.
- The California producer model, which is heavily dependent on purchased feeds, is rapidly removing California producers national dominance as low cost of production leaders. California's practical cost of production could be well approaching several dollars per cwt. higher than their Midwest competition.
- The requirement that all California processors who purchase market milk (Grade A) must pay the regulated minimum price for that milk regardless of whether or not they are a pool plant means that the only current tool to add incentive for additional plant capacity is to discount the regulated minimum price.
- Given the already expensive cost of doing business for processors in California, the **further discount** in the regulated price needed to add incentive for additional plant capacity could amount to more than one dollar per cwt.
- Discounting the regulated price to add incentive for further plant capacity expansion in California has the potential to be very inefficient because:
  1. All processing plants get the increased margin regardless of whether or not they expand capacity. Given that there is a lot of capacity already, the marginal cost to the producer pool of the increased capacity becomes enormous.
  2. That increased margin in and of itself does nothing to encourage the innovation of the processing sector and may discourage it.
  3. Because it is a government granted regulated incentive that is subject to political pressure there is no assured "shelf life" to the policy thereby creating huge risk to processors who are contemplating an expensive plant capacity expansion that needs a return over the long term.
  4. Despite the large regulated margins this would create, the reality of significant month to month changes in the regulated milk price makes development of higher valued non-commodity cheese markets difficult.

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Alternative 4	Alternative 5
Description: To create the opportunity for competition for producer milk between the current regulated system and a new unregulated system.	**Description:** We offer this alternative in the spirit of staying "inside the box".
Proposed changes: • The regulated class 4b price should be directly tied to the FMMO class III price. We would suggest Class III less $0.50 per cwt as the equivalent price.* • Secondly, a new Section would be added to the Food and Agriculture Code allowing purchasers of class 4b market milk the option to drop out of the regulated minimum price system. What is contemplated here is a scenario where the regulated system would include all class 1, 2, 3, 4a and whatever 4b milk wished to be part of it. The class 1, 2 and 3 revenues would provide sufficient dollars to cover the quota payments for those producers who have quota. Cheese plants would be free to contract for a milk supply from producers and cooperatives outside of the pool, not subject to any minimum price requirements. Such producer milk would have no access to the regulated pool and would have no pool obligations. Cheese plants could establish any number of types of contracts to purchase grade A milk with regards to duration, volume and price. This flexibility would stimulate the opportunity to innovate. However, the cheese plants would have to compete against the regulated system for a milk supply. The regulated system would have the advantage of the inclusion of the higher classes of milk and a higher regulated class 4b price because the plant expansion incentive need not be included in the class 4b regulated price. The way this system would work in practice is that producers and cooperatives would make a decision about where they wanted to sell their	**Proposed changes:** The whey factor in the 4b formula would consist of a fixed factor of $0.18/cwt plus an additional amount equal to the NASS dry whey price minus $0.36 times 5.8 (yield) times .33 (share rate). The additional amount cannot be a negative number.

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milk. They could contract to sell all or part of their milk to a cheese plant for whatever terms they could mutually agree to. The milk that was sold to the cheese plants under this arrangement would not participate in the regulated pool. The milk that is sold to a buyer on a regulated basis would participate in the pool and producers will be paid the quota and overbase prices out of the regulated pool. A cheese plant could buy both regulated and unregulated milk at the same time. However all milk purchased, both regulated and unregulated, must be sold by contract which would state, at a minimum, volume and price. CDFA will publish on a regular basis (no less frequently than semi-monthly) the total statewide volume and average price at which the unregulated milk supply is being sold. *We propose the FMMO class III price less $0.50 to account for the California specific cost and distance factors. The FMMO price is a good one to benchmark off of because it is what the competition in the rest of the country is using for a benchmark. The FMMO class III price includes a value for the whey solids stream. The criteria USDA uses to establish the FMMO Class III price mirrors the criteria that must be considered when California establishes its minimum price and therefore a California 4b price that references the FMMO class III price would meet the California statutory requirements.	
PROS: • Creates the opportunity for a much more efficient and effective incentive mechanism for expansion of cheese manufacturing in California through the use of business arrangements that are not legal today • Greatly increases the ability of the market signals to be transmitted back to both producers and processors • Enables the regulated price to be higher than is possible in a system where all milk must be regulated • Facilitates milk price discovery through real-time transparency.	**PROS:** • Introduces a revenue sharing concept when whey markets are high and acknowledges the fact that the whey stream does have a value • Does not contain a “negative” factor • Is a small decrease in the 4b price currently when milk is very long • Does not include significant change from current formula

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CONS: • Creates risks both to producers and processors	**CONS:** • Fosters continuation of the status quo

Whey sub-committee: Magneson, McCully, Taylor , and Van Dam

Alternative 6	Alternative 7	Alternative 8
Description: **Processors**: • Eliminate the Whey Component Factor	**Description:** **Producers:** • End-product formula based on the average of the western mostly quote for dry whey; less a make allowance based on the costs of the four smallest plants (as generated by CDFA) making nonfat dry milk plus a fixed factor (Note A) to account for the extra costs of drying whey; and multiplied by a yield of 5.8. • In addition, consider applying an index factor to the make allowance that would reduce it when producer costs were high relative to the 4b commodity reference price (CRP) and increase it when producer costs were low relative to the CRP.	**Description:** End-product formula with the following features: • The base value used shall be the lower of: 1. the average of the western mostly quote for dry whey as reported by DMN, or 2. 38% of the average of the central and west mostly quote for whey protein concentrate 34% as reported by DMN. (Note C) • Less a make allowance based on the costs of the four smallest plants (as generated by CDFA) making nonfat dry milk plus a fixed factor to account for the added costs of drying whey (Note A) • Multiplied by a yield of 5.8 • If the result is less than _x_ the whey component portion of the formula will set at _x_ and if the result is more than _z_ the whey component portion of the formula will be set at _z_. (Note B)

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		NOTES: **Note A**: Make allowance example: CDFA reported cost for smaller plants is 20 cents and then set a fixed factor of 8.5 cents to bring the make allowance to 28.5 cents. **Note B**: Snubber examples: Value per cwt for the Class 4b whey component. (x) (z) Top Zero $0.50 Zero $1.00 $.25 $1.25 **Note C**: The effect of applying the 38% is to restate the dry whey price as if its protein were valued at the protein value of WPC 34. The math here is based on a protein content of 13% in dry whey and 34% in WPC 34. 13/34 = 38. At 12% protein in dry whey the multiplier would be 35%. Bottom
PROS:	**PROS:**	**PROS:**
CONS:	**CONS:**	**CONS:**

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