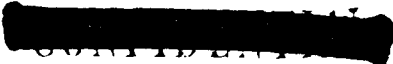


Public Version



THE COMPETITION TRIBUNAL

IN THE MATTER of an application by the Director of Investigation and Research for orders pursuant to section 92 of the Competition Act R.S.C. 1985, c. C-34, as amended;

AND IN THE MATTER of the acquisition ~~by Hillsgdown~~ Holdings (Canada) Limited of 56% of the common shares of Canada Packers Inc.

COMMISSION TRIBUNAL DE LA CONCUSSION	
FILED	SEP 17 1991
REGISTRAR - REGISTRE	
OTTAWA, ONT.	98(A)

B E T W E E N:

THE DIRECTOR OF INVESTIGATION AND RESEARCH

Applicant,

- and -

HILLSDOWN HOLDINGS (CANADA) LIMITED,
MAPLE LEAF MILLS LIMITED,
CANADA PACKERS INC. and
ONTARIO RENDERING COMPANY LIMITED

Respondents

REPLY AFFIDAVIT OF PROFESSOR MICHAEL TREBILCOCK

I, Professor Michael Trebilcock, of the City of Toronto, in the Province of Ontario, MAKE OATH AND SAY:

- I have been retained by Maple Leaf Foods Inc. to provide my opinion on the competitive implications of the merger between Maple Leaf Mills Inc., Rothsay Rendering Division and Canada Packers Inc. (now Maple Leaf Foods Inc.), Orenco Rendering operation on the rendering industry in Ontario. My background and qualifications are described in my earlier affidavit, which was filed by the Respondents on August 2, 1991.

[REDACTED]

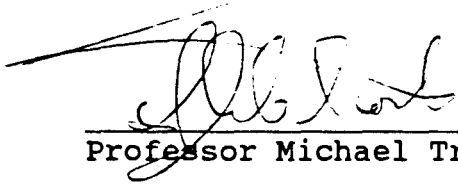
2. Attached hereto as Exhibit "A" to this my affidavit is a true copy of my reply to the rebuttal affidavits of Thomas W. Ross and David D. Smith, filed by the Applicant on August 23, 1991.

3. Attached hereto as Exhibit "B" to this my affidavit is a true copy of a computer database printout of an article entitled "Fat City", from the July 10, 1989 issue of Forbes magazine.

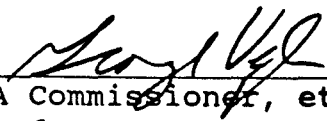
4. Attached hereto as Exhibit "C" to this my affidavit is a true copy of an article entitled "Renderers Bite the Bullet" from the January 1990 issue of Chemical Business.

5. Attached hereto as Exhibit "D" to this my affidavit is a true copy of an article from Ontario Farmer of August 29, 1990.

Sworn before me at the)
City of Toronto in the)
Province of Ontario)
this 6th day of SEPTEMBER 1991.)




Professor Michael Trebilcock



A Commissioner, etc.
GEORGE VEGH

~~CONFIDENTIAL~~

This is Exhibit "A" to the
Reply Affidavit of Michael J. Trebilcock,
Sworn before me on the 6th day
of September, 1991


A Commissioner, etc.
GEORGE VEGH

PROFESSOR MICHAEL J. TREBILCOCK

1. The purpose of this reply is to address points made in the rebuttal affidavits of Professor Thomas Ross and Dr. David Smith.

I. Evaluating Mergers

2. In paragraphs 23 to 32 of my affidavit sworn on August 1, 1991, I explained why, in my opinion, this merger should be evaluated in the light of what will happen in the future, should the merger be blocked, rather than by comparing the immediate post and pre-merger scenarios, particularly in a case where an industry is undergoing important changes in demand, cost, and/or technology.

3. Professor Ross in paragraph 12 of his rebuttal affidavit appears to agree with this approach.

4. However, Dr. Smith appears not to accept this conceptual framework. In paragraph 4 of his rebuttal affidavit, he argues that the Tribunal "does not need to base its analysis and judgment regarding this merger on forecasts of future rendering activity. The competitive process, and its underlying market forces, should determine the number and configuration of competitors".

5. However, as I pointed out in my original affidavit, this approach is inconsistent with the explicit rejection of a structuralist approach to merger review in the Competition Act. Dr. Smith's view appears to leave no important role for mergers in the rationalization of a declining industry.

6. In paragraph 8 in his rebuttal affidavit, Dr. Smith appears to assume that the rationale for mergers in a declining industry is to prevent assets from exiting the industry. In

fact, the rationale is exactly the opposite: mergers provide a vehicle for orderly contraction, rationalization, and exit. The alternative rationalization process involves individual firms, in the face of declining demand, gradually starving to death (bankruptcy).

7. Dr. Smith's view is contradicted by evidence of the extensive role played by mergers and acquisitions in the contraction and rationalization process in the rendering industries in the U.K. (described in paragraph 17 of my original affidavit) and in the U.S., where aggressive acquisition strategies by companies like Darling have resulted in major rationalizations and closures of facilities. (See attached articles, "Fat City", Forbes Magazine, July 10th, 1989 (attached to my reply affidavit as Exhibit "B") and "Renderers Bite the Bullet", Chemical Business, January, 1990 (attached to my reply affidavit as Exhibit "C").)

8. Dr. Smith, at paragraphs 15 and 16 of his rebuttal affidavit, largely dismisses evidence of rationalization processes and resulting high concentration levels in the rendering industries in the United Kingdom and the United States (and I would add in every other province in Canada). Rather, he suggests, that the case has to be made that relevant markets and entry conditions in these other jurisdictions are comparable to those in Ontario and implies that each geographic market with respect to rendering must be analyzed in its own terms.

9. While I, of course, do not deny this latter implication, in my view, ignoring similar structural changes observable in the U.K., the U.S., and every other province in Canada in this same industry seems to reject conventional methodology in industrial organization analysis.

II. Declining Industry

10. I have already acknowledged in my original affidavit, in paragraphs 29 through 31, that mergers are not invariably the most efficient vehicle for resource reallocation in a declining industry, but that, on the other hand, depending on the reasons for the decline, in particular industry contexts they may perform an important role in this respect. That they have done so in the rendering industry in other jurisdictions without objection or opposition by the relevant anti-trust authorities is, in my view, reason to closely examine the specific characteristics of the meat rendering industry in Ontario and elsewhere, and the larger meat industry of which it is a part.

11. Whatever their differing views as to the role of mergers in a declining industry, both Professor Ross, in paragraphs 3 and 4, and Dr. Smith, in paragraph 3 of their respective rebuttal affidavits, question whether the industry is in fact in decline.

12. Professor Ross states in paragraph 4 that much turns on how one defines the industry. If the industry is defined as all captive and non-captive renderable materials, including both red meat and poultry, then given projections of substantial growth in Ontario poultry production and modest growth in pork production, the rendering industry in Ontario, as broadly defined, may not be in decline. However, most poultry and pork rendering is presently undertaken on a so-called "captive" or integrated basis by the poultry and pork producers themselves. In the Director's application to the Tribunal, the focus of concern was on the free market red meat rendering industry, which is overwhelmingly comprised of renderable beef material.

13. Dr. Smith, in paragraph 3 of his rebuttal affidavit, is inclined to doubt even that the beef industry is in a process of decline. If we are focusing on the Ontario (not global) beef industry, this claim is contradicted by the evidence adduced by various experts before the Tribunal in these proceedings, which shows that between 1980 and 1990 in Ontario the beef kill rate has declined from 24,000 head a week to about 12,000. Professor van Duren in her affidavit projects further, albeit, somewhat more modest declines over the next five years (about 20% in total). Her projections are cautious relative to others that have been made.

14. For example, Kevin Grier of the Ontario Ministry of Agriculture and Food, the author of the study, Ontario Beef Packers Situations Outlook, cited in paragraph 9 of my original affidavit, in an interview reported in the Ontario Farmer, Tuesday, August 29th, 1990 (attached to my reply affidavit as Exhibit "D") states, "the number of cattle being killed in the province will probably decline from the 14,000 or so per week we are seeing now to 8,000 or 9,000 head per week five years from now". A decline of beef cattle slaughter from 24,000 head per week to 8,000 or 9,000 per week over a fifteen period constitutes a declining industry.

III. Evaluating Divestiture

15. Dr. Smith in paragraph 20 of his rebuttal affidavit is under a misunderstanding as to the point I sought to make in paragraph 34 of my original affidavit. The table reproduced there from the September 10, 1990 presentation by Canada Packers to the Bureau of Competition Policy was intended to describe the merger scenario five years from now. The point I sought to make was that the relevant counterfactual against

which this merger scenario should be compared is the divestiture scenario five years from now.

16. In making this assessment, a central question is likely to be the capacity in the non-captive red meat rendering industry five years from now relative to projected supply of renderable red meat material. According to the evidence, the supply of non-captive renderable red meat material (beef and pork) will decline by about 3% a year over the next five years while there will be a significant increase in the supply of renderable poultry material (mostly captive). In comparing the divestiture scenario five years out with the merger scenario five years out, the central issue is whether, in the event of a divestiture of Orenco, Rothsay is likely to commit all or most of its capacity to rendering poultry and perhaps to a much smaller extent pork (mostly on a captive or integrated basis).

17. Professor Ross, in addressing the divestiture scenario in paragraph 14 of his rebuttal affidavit, argues that Rothsay may be able to continue to exert some competitive pressure on Orenco (if divested) through Rothsay's ability to switch from rendering poultry material to rendering non-captive red meat by-products. Dr. Smith makes the same point about relative ease of switching from poultry to red meat or vice versa.

18. [REDACTED]

19. The costs of processing both red meat and poultry material are not confined to switch-over costs but also entail significant costs of establishing or maintaining collection facilities for both categories of material, given that they

come from different sources. If there is excess capacity in the non-captive beef rendering industry, it is not clear that it would be either privately or socially efficient for Rothsay to make or maintain investments in heavily under-utilized collection facilities.

20. Professor Ross, in paragraph 15 of his rebuttal affidavit, goes on to suggest that in the divestiture scenario, Rothsay might well expand its Moorefield plant in an attempt to retain as much of their profitable business as they can. However, he previously conceded, in paragraph 6 of his affidavit sworn July 31, 1991, that regulatory barriers to expansion were likely to be substantial. Moreover, if one assumes, as the evidence seems to show, substantial and growing excess capacity in the non-captive beef rendering industry, it is not clear why it would be rational for Rothsay to invest resources in plant expansions which, because of their specialized nature, represent sunk costs. Other firms in the non-captive red meat rendering industry have already incurred these sunk costs, and can afford to price their services accordingly.

IV. Output Markets

21. I accept the point made by Professor Ross in paragraph 16 of his rebuttal affidavit and Dr. Smith in paragraph 23 of his rebuttal affidavit that whether this particular merger is blocked or not will have no significant impact on the competitive health of output markets in the rendering industry. However, two points should be considered. If anti-trust authorities in other jurisdictions had consistently blocked mergers in the rendering industry, cumulatively one would expect that there would have been an effect on the competitive health of output markets. In

deciding what is an appropriate policy towards this merger, it does not seem inappropriate to ask whether this policy could withstand extrapolation to merger policy in rendering markets generally. Second, whatever the impact of merger policy on the output market for renderable material, I reiterate the point made in paragraph 42 of my original affidavit that by denying the merging parties in this case the substantial efficiency gains from rationalization that anti-trust authorities have conceded to similar parties in all other countries risks creating significant production cost differentials. Over the long term these differentials may impair the competitive status of the rendering input market in Ontario. While neither Rothsay nor Orenco may be failing firms, the dynamic perspective that I have urged as appropriate in my original affidavit places a much stronger emphasis on what firms in the rendering industry in Ontario will have to do over the longer term to remain viable competitors in their output markets.

V. Trade off Analysis

22. Professor Ross, in Section B.1 of his rebuttal affidavit, develops a dominant firm model for the rendering industry in Ontario that generates predictions of very substantial price increases for rendering services by Maple Leaf Foods in the event that this merger is permitted. These very substantial price increases in turn generate predictions of very large dead-weight losses that outweigh the efficiency gains from the merger estimated by Professor McFetridge in his evidence. Again, this approach reflects a preoccupation with static considerations. It assumes that the dominant firm will be able to act as a pure monopolist. Indeed it is not clear what constraints are recognized in Professor Ross' model on how high the dominant firm can raise its prices. Specifically, Professor Ross appears to assume that no credible threat of

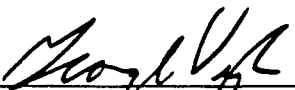
entry is likely to exist, either in the form of expansion by existing firms e.g. Darlings, Banner, Schneider, an increase in interprovincial or cross-border competition, integration by presently non-integrated meat packers, greenfield entry by new entrants, or smaller abattoirs forming co-operative rendering operations.

23. It was precisely this set of considerations that led the U.K. Monopolies and Mergers Commission in its report on Animal Waste to conclude that in the event of PDM making consistently high profits, it was likely that market forces would emerge that would restrain them from becoming excessive (see pages 99, 100): "In the long run slaughterers would appreciate that the remedy for exploitation would be in their own hands, and barriers to entry would not be insuperable". It is also to be noted that Professor Ross, in speculating about the magnitude of possible price increases in his dominant firm model, adduces no empirical evidence as to the realism of these speculations.

24. Following the conclusion of the U.K. Monopolies and Mergers Commission, noted above, it is my view that credible threats of entry in fact discipline price increases for rendering services by dominant firms to substantially below the kind of levels that Professor Ross derives from his model, which assumes away any reaction function altogether. Indeed, as I pointed out in paragraph 40 of my original affidavit, in the only inquiry of this kind into this issue, the Monopolies and Merger Commission found that PDM, which in 1984 held a 50% market share of the rendering industry in the U.K. (compared to a 6 or 7% market share for the next largest competitor) had not engaged in monopsony pricing (see Chapter 9).

~~CONFIDENTIAL~~

This is Exhibit "B" to the
Reply Affidavit of Michael J. Trebilcock,
Sworn before me on the 6th day
of September, 1991



A Commissioner, etc.
GEORGE VEHM

PROFESSOR MICHAEL J. TREBILCOCK

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July 10, 1989

SECTION: INVESTING; Pg. 70

LENGTH: 868 words

HEADLINE: Fat city

BYLINE: By Howard Rudnitsky

HIGHLIGHT:

The Bass brothers are best known for their investments in oil wells and Hollywood's Walt Disney Co. Their latest play is a lot less glamorous, but no less rewarding.

BODY:

THE RENDERING OF animal waste is hardly a business that comes to mind when investors think of 500% annual returns and \$ 180 million special cash dividends. But not many investors are as shrewd as Sid and Lee Bass of Fort Worth, Tex.

Together with Equitable Life, Drexel Burnham, Michael Milken, Richard Rainwater and Edward (Rusty) Rose, among others, the Bass brothers three years ago bought Chicago-based Darling-Delaware Co., one of the largest and oldest fat rendering outfits in the country. Since then Darling has increased its market share from 12% to 31% and paid its owners a special one-time cash dividend of \$ 180 million. That's nothing to turn your nose up at.

Darling Co. was, and is, the rendering business' royalty. Founded by the darling family, the company has been rendering the fat of hogs and cattle since the 1880s. Heirs of the Swift meatpacking fortune, through a trust, were investors in Darling as well. These old-line families had learned that there was big money to be made in the smelly business of processing animal waste and restaurant grease into products like tallow, yellow grease and bonemeal.

The Bass brothers might never have gotten involved if it weren't for a division among the private company's several hundred shareholders. Some holders wanted the company to pay out its excess cash. Others, including former chairman Edward M. Bakwin, wanted to use the company's cash hoard to diversify into other businesses. His goal was to offset the sharp margin swings of the highly cyclical rendering business and, Bakwin says, to avoid the threat of antitrust action. Frustrated in his efforts to get the shareholders to go along, Bakwin tried to raise \$ 90 million from Harris Trust to buy the company himself.

That's when the Bass brothers got wind of Darling. Dealmaker Richard Rainwater, then working for the Basses, heard about the fat renderer from fellow Texan William Shirley. Shirley owned a rendering plant in Dallas and a tiny stake in Darling. Thus, Shirley learned early on that Darling's own managers were trying to buy the company cheap. Rainwater, realizing how difficult it would be to break into the tight circle of Chicago's old-money set, turned the job over to Edward Rose, the hard-nosed president of Dallas-based Cardinal Investment Co.

(c) 1989 Forbes, July 10, 1989

With the backing of the Basses and the other investors, Rose offered \$ 96 million for Darling, some \$ 6 million more than Bakwin's bid. To Bakwin's chagrin, shareholders chose Rose.

The \$ 96 million seemed a rich price back in 1986. Darling's earnings from operations that year were only \$ 6.5 million, down sharply from \$ 17 million in 1985. But the new investors had put up only \$ 12 million in cash and asserts and borrowed the rest from banks. Moreover, they saw hidden value. Darling itself was flush with \$ 22 million in cash, most of which it didn't need to run operations. On top of that, the new owners were able to quickly sell off nonrendering businesses like oil and gas operations, raising about \$ 10 million. Thus, the net cost of owning Darling's rendering business was one-third less than the original \$ 96 million price tag.

Next came the strategic maneuvering. First off, Darling's headquarters was moved to Dallas and Shirley was put in charge. Then Shirley sold his Dallas company, Sterling Byproducts, to Darling for \$ 3 million in cash and some stock. Shirley led Darling on an acquisition spree, buying up 17 rendering plants for about \$ 71 million in all. The aim was to increase revenue and profits and cut overhead.

It worked. The company's revenue has jumped to \$ 459 million pro forma in 1988, from about \$ 197 million in 1986. Darling now has 31% of the noncaptive rendering market, up from about 12% before the buyout. Earnings from operations increased to \$ 34 million. True, interest costs ate up more than that. However, cash flow remains strong.


The payoff: Late last year Darling's new owners reckoned they had more equity capital in the business than they needed and decided to pay shareholders a dividend -- a whopping \$ 180 million. The fact that Darling didn't have the \$ 180 million in cash on hand was no problem. Darling, though it was already saddled with \$ 173 million in debt, simply borrowed some \$ 150 million more to help fund the huge payout.

The new lenders at first were reassured by Darling's substantial cash flow -- \$ 37 million even after annual interest charges of \$ 42 million. This year, however, with gross margins declining, Darling's lenders have toughened covenant requirements: Equity must be increased to \$ 160 million in 1996, far more than it is currently. Cash flow coverage and working capital ratios have been tightened as well.

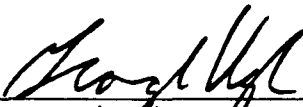
But such problems are nothing as compared with the gains already realized. What's Darling worth? Richard Rainwater estimates Darling's current value to be about \$ 200 million. So, for an original investment of \$ 12 million in cash, the Basses and their fellow investors got a \$ 180 million dividend and the largest independent rendering company in the country. Okay, it's a smelly industry. But for those returns, smart investors can hold their noses.

GRAPHIC: Illustration, no caption, Raul Colon

(c) 1989 Forbes, July 10, 1989



This is Exhibit "C" to the
Reply Affidavit of Michael J. Trebilcock,
Sworn before me on the 6th day
of September, 1991



A Commissioner, etc.
GEORGE VEGH

PROFESSOR MICHAEL J. TREBILCOCK

CONFIDENTIAL

7 MARKETS

Renderers Bite the Bullet

By AGNES SHANLEY

Since the Second World War, petroleum derivatives and sweeping changes in the US meatpacking industry have sharply altered the domestic fat-rendering business. Animal fats, once found in everything from bullet cartridge casings to laundry and hand bar soaps and cooking oil, today find domestic

use restricted to animal feed, steel lubricants, and soaps and oleochemicals, where they compete with the coconut and palm oil.

Health-conscious, fat-surfeited North Americans and Europeans have shifted to unsaturated vegetable oils for cooking, and from laundry bar soap to liquid and powder detergents.

Now, even soap and personal care formulators in the US may be starting to move away from tallow to vegetable oil-based fatty acids. "Cosmetics customers seem to like the idea that these oils are not associated with living things," explains Brian Shaughnessy, marketing manager of performance materials for oleochemicals producer Unichema Chemicals, Inc., Chicago.

He says the movement away from tallow may follow the path taken by whale sperm oil wax, which was replaced by jojoba oil in US cosmetics in the 1970s. Mainstays for today's animal fats market are in the Third World, where laundry bar soap is still used, and in Japan, which uses biodegradable tallow acid-based sur-

factants in its detergent formulas. Exports, a large chunk of production, are vital to US renderers.

factants in its detergent formulas. Exports, a large chunk of production, are vital to US renderers.

Losing the domestic laundry soap market had a tremendous impact on the business, explains Kent Brady, director of international marketing for the National Renderers Association (Washington), whose 200 members include renderers and their customers. "Before WW II, most of our members were small soap-makers who got into rendering to get their raw materials, then had to get out of soap," he says. Some, such as Tucson Tallow & Soap Co. (Tucson, AZ) retain "soap" in their names, though they no longer make it.

Ironically, insufficient tallow supplies helped push the move to synthetic detergents during the war years, explains Lewis Spiegel, a Westchester, NY-based broker who buys tallow and grease for domestic resale.

Since then, renderers have been forced to consolidate, their numbers falling from 600 renderers to 60 within the past 30 years, Spiegel notes. There were 32 in the Metropolitan New York area alone. Now, he says, only four remain—three of them export only.

Soap-making methods have changed little since the days of the colonists.



Rendering, or extracting the oils from cattle, hogs and chicken carcasses, is now carried on by the remaining independent companies, and in-house, by the major slaughterhouses. The oil extracted from cattle is known as tallow—edible if extracted under the supervision of a Department of Agriculture inspector, inedible if not. Pure hog fat is known as lard, and mixtures of lard, chicken fat and vegetable oil are referred to as grease.

The two largest independent renderers are Darling-Delaware (Matamoras, PA) and Baker Commodities, Inc. (Los Angeles, CA). Christopher Rolland, Darling-Delaware's executive vice-president of marketing, says his company, in business since the 19th century, produces tallow, grease, proteins, and petfood and processes cattle hides at 50 plants throughout North America. Darling-Delaware exports roughly 30 percent of its yield to 35 countries in South America, the EC, Pacific Rim, and Middle East.

Among US soaper and chemical company customers are Lever Brothers Co., Inc. (New York), Armour-Dial, Inc. (Phoenix, AZ), Unichema, Andrew Jergens Co. (Cincinnati, OH), Henkel Corp.'s Emery Division (Cincinnati), Akzo Chemie America (Chicago, IL) and Procter & Gamble (Cincinnati).

Rolland agrees that restructuring has trimmed the industry ranks. "We've probably been responsible for a lot of that," he says, noting his company's fairly aggressive acquisition schedule.

George Congleton, vice-president of marketing at competitor Baker, traces consolidation, not only to weakened soap markets and a leaner meat industry, but to a shortage of raw materials. In the old days, carcasses were sold to supermarkets and butcher shops, and independents bought scraps to make into fats. Today, more slaughterhouses are trimming, cutting and packaging the meat themselves before shipping, leaving less for smaller independent renderers to glean.

Today's three leading meatpackers—giant Conagra, Cargill, Inc.'s Excell Corp (Minneapolis, MN) and IBP, (Houston)—also render fats, selling them to the independents onshore, and exporting. Rick Stevens, marketing manager with Conagra's Armour Products Division, says his company's rendered fat sales are split evenly between independents onshore and the Japanese.

How are these fats extracted? The basic process, using heat, has remained unchanged for centuries, although fairly recent improvements have made plants more energy efficient.

Congleton says a move from batch to

Fat Substitutes?

Fears of blood cholesterol buildup have shut animal fats out of most edible oil markets in the US, including the last bastion of unhealthy eating—the fast-food restaurant. Although MacDonald's still uses tallow to make its french fries, many of its competitors are using more vegetable oils. Now, saturated, tropical palm and coconut oils face a similar fate as food giants including Kellogg (Battle Creek, MI), Pepsico Foods, Inc. (Ocean County, NJ) and Campbell Soup Co.'s Pepperidge Farms subsidiary (Norwalk, CT) plan to bake with unsaturated oils such as soy.

The conflict had its share of political overtones, since hydrogenated soybean oil has nearly the same amount of bad fats as tropical oils. Malaysian palm-oil pressers charged American soy farmers with protectionism. Users in non-food markets have been stepping up their use of animal oils, however, and they may see more of a factory detergent production (see story page 17).

In foods, however, further changes may come from substitutes available on the market. Olestra, a trans-free fat developed nearly 20 years ago by Procter & Gamble scientists Fred Mattson and Robert Copenhagen, newcomer Simplesse, introduced by Nutrisweet Co. (Chicago) in 1987, and cereal-derived products like Nutrifat, a protein recipe developed by Reach Associates, Smith (Orange, NJ) and now being tested for use in the US.

The FDA has yet to approve the synthetic, but P&G gets the agency's seal. However, Olestra could replace up to 35 percent of the oil used in homes and restaurants, and 75 percent of the fat used to prepare fried packaged snacks, like potato chips.

Renderers who get their grist for tallow grease from fast-food joints and restaurants have worried that the synthetic could alter their product. John Spinner of P&G's Olestra Division, which conducted an extensive study of the yellow grease stream with Stamford Research Institute, Menlo Park, CA, says the substitute should make up no more than two to three percent of the yellow grease stream.

continuous processing took place about 25 years ago, using low-temperature equipment designed by Jack Keith, one of Baker's original owners. Keith Engineering and Dupps Co. (Germantown, OH) formed Duke Systems (now, along with Keith Engineering, part of Dupps) to build the new plants, which replaced the old cooking-vat extractors with steam coils. Outlining the process, Rolland says, fat is steam-extracted, then centrifuged, dried, purified, and further filtered and bleached.

It is difficult to estimate the amount of fat rendered in the US each year, since paths from abattoirs to restaurants and retail stores to renderers may converge. Illustrating the problem is yellow grease, a rendered commodity traded abroad; it combines tallow, chicken and pork grease, vegetable oil from slaughterhouse leavings and restaurant waste.

In 1988, USDA statistics show 4.5 billion pounds of rendered fats were sold in the US, and 2.9 billion pounds were exported. Animal feed accounted for 42 percent of the market, soaps, for 16 percent, and lubricants, 10 percent.

Bureau of the Census monthly reports show that over 103,000 tons of edible lard and 808,000 tons of edible tallow were consumed in food-related uses in the US over the first nine months of 1988. Another 1,179 million tons of inedible tallow were concurrently used in industrial applications, along with 36,000 tons of edible tallow and 25,000 tons of lard.

Roughly 58 percent of the inedible tallow went into animal feed, 23 percent into fatty acids, 16 percent into glycerine and soaps and the remainder, into lubricants and odds and ends.

Exports of tallow and grease ran over 100,000 tons a month in 1988, estimates Rolland of Darling-Delaware, to 1.2 million tons, or 35 percent of a total annualized 1988 consumption of 3.4 million tons. From October through June of 1989, Census Bureau figures show tallow and grease exports of 716 million pounds, and lard sales of 38 million, down 64 percent and 56 percent, respectively, from the same period of 1988.

End users in the chemical industry say that through most of the 1980s, tallow pricing made it more attractive than palm or coconut oil in soap and chemical applications. "Back in the 1970s," explains Rolland, "palm oil was seen as the 'oil of the future', and a replacement for tallow, but customers in food markets have lost enthusiasm because of its high saturated fat content." In 1988, it cost \$60 per ton more than tallow, which now runs from \$300 to \$350 per ton, depending on grade.

This year, the cost gap is narrowing and vegetable oils may move into more soap and detergent applications, but there is a performance difference between tallow and vegetable oils in soap formulations. Although hydrogenation makes vegetable oils more like tallow, the animal derivative has a solubility that most cannot beat, explains chemist Greg Fischesser, project manager at Andrew Jergen's Soap Division, "Tallow-based soaps are generally solid at room temperature and stable, and don't dissolve too quickly."

Coconut oil's lathering and cleaning properties are better than tallow's, however, Fischesser says, so a combination of the two is needed to optimize product performance. In today's hand soap formulations, he adds, typical tallow-to-coconut oil loadings, depending on brand and manufacturer, range from a 50/50 split to 85 parts tallow to 15 parts coconut oil.

In 1988, roughly averaging monthly consumption figures through September, coconut oil accounted for 26 percent of total domestic oil consumption for soap production, and tallow for 72 percent; the balance was made up by palm and tall oils.

In fatty acid production, tall oil accounted for 59 percent of raw material use; tallow, 34 percent, and coconut (with a tiny amount of palm) oil for the balance.

Tallow accounted for roughly 81 percent of the oils used as industrial lubricants, with lard, tall oil and some castor oil making up the balance.

With growth in most of tallow's US markets, at best saturated, or at worst, declining, exports will remain the only dynamic outlet for renderers, who closely monitor developments abroad.

Since a quota on US tallow exports was lifted three years ago, the EC should remain a stable market for US material, NRA's Brady says. European exports all but dried out last year, Brady relates, as West Germany reclassified its customs categories and Spain extended Germany's ban on US hormone-treated beef imports to tallow.

Starting with yellow grease, and later extending this to tallow, West Germany moved what had been a 2 percent duty to 12 percent. The rest of the EC followed.

In response, the US threatened a \$15 million retaliatory duty on European exports to the US, an amount which Brady says pales in comparison with the \$45 million in sales they lost last year. Spain has since accepted US tallow exports, and West Germany has agreed to re-establish the original 2 percent duty.

The Third World still offers opportunities, according to Brady, although syn-

TALLOW AND PERESTROIKA

Miners' strikes which raged across the USSR last year might seem to have little to do with animal fat imports and less with orthodox Hinduism, yet both played parts in the upheaval. Lack of soap and detergent supplies were a major part of the problem, and still plague the Soviet Union. India had always been a major supplier of bar soap to the USSR—since it banned imports of tallow six years ago, under pressure from the Jains, it has not been able to make enough soap to export, and the Soviets have had to look to other sources.

thetics are encroaching on some markets and intrigue abounds.

Egypt's government, for example, strapped for foreign exchange currency,



Changes in meat distribution have sharply altered the rendering industry.

has announced that it will no longer subsidize laundry bar soap production. Last May, subsidization shrank from 100 percent to 55 percent, and will be phased out entirely this year. This, combined with shaky economic conditions has depressed imports of US-processed tallow from 250,000 tons to under 150,000 tons over the past four years, Brady says.

Last year, Brady says, sales to Egypt

ran to only 125,000 tons. Given more complicated customs procedures and risks entailed with less-than-accurate weighing and analysis at customer plants, the cost of US tallow sold in Egypt was raised, and most Egyptian customers shifted to the much cheaper palm stearine.

India has also proven to be a politically charged market base since the Sepoy Mutiny, 19th century India's first rumbling of nationalism, where Indians serving in the British army refused to fire bullets coated with animal fat. (Firing required biting off coatings offensive to Hindus and Muslims since they contained both tallow and lard.)

In 1984, Indira Gandhi banned imports of tallow into India, effectively destroying the country's cottage soap-making industry. The ban, Brady explains, came from political pressure. The Jains, orthodox Hindus, accused a local vegetable oil producer of using tallow in its formula. Even though the accusation did not hold, tallow became a volatile issue, and the ban, still in force, has been a main factor in the USSR's acute soap shortage, since the Soviet Union has been a leading buyer of Indian soap.

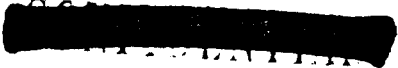
Bangladesh may provide a new market for food-grade tallow, which looks and tastes like the local ghee, or clarified butter, but costs 30 percent less than vegetable oil alternatives. As Brady puts it, unsaturated fats are not really a concern where many in the population are undernourished and only 6 pounds of fat are added to the average diet, compared with 60 pounds in Europe and the US.

The slaughtering process used in the US, although it lacks the ritual, conforms to Moslem "hial" methods, and, thus should be acceptable to most Bangladeshis, Brady says. The strict inspection required for tallow make it less likely than vegetable oil to be adulterated with lard.

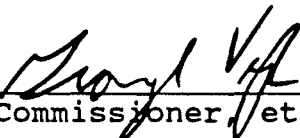
NRA hopes to capture 50,000 tons of the 350,000 ton edible oil market in that country within two years; with Jay Walter Thompson in India, feasibility studies are under way and a promotional conference will be held in Dacca in March.

Long-term, Eastern Europe and the USSR may be next, since people in this part of the world still use animal fats and butter for cooking. "US renderers had become mired into viewing tallow as an industrial food product—now we see its potential abroad for table use," says Brady.

Despite depressed markets, this "low tech" industry has continued to survive in an age of advanced composites and petroleum products, but renderers will continue to look overseas for new opportunities. **CEI**



This is Exhibit "D" to the
Reply Affidavit of Michael J. Trebilcock,
Sworn before me on the 6th day
of September, 1991



A Commissioner, etc.
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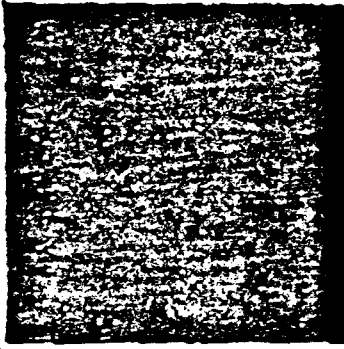
Cattle shipping patterns change

Western packers cut into Ontario markets

By Ray Ford

Fewer fat cattle coming to market may make the next year a lean one for Ontario's \$1 billion dollar packing industry.

Packers may have to get used to it, says Kevin Carter. The shrinking number of western calves shipped into Ontario means packers must become more efficient.



dent to stay in business — or get out of cattle-killing altogether. Farmers, too, may find relatively slim pickings in this year's western steer sales.

"All things continue the way they are, I can't see any other future for the industry," says Carter, the author of last year's provincial government report on the outlook for the beef packing industry. "The number of cattle being killed in this province will probably decline from the 24,000 or so per week we're seeing now, to 20,000 or 21,000 head per week five years from now."

The shipping patterns of cattle within Canada are changing, Carter says, and the pace of that change could accelerate this year. One of the major reasons for a fall in Ontario finished cattle numbers is the growth of the Alberta packing industry, and the

driving up of the western calf supply.

Saying in the west More and more cattle are being killed in Alberta, and the steers that once flowed into Ontario are being drawn into Alberta and Saskatchewan feedlots. There, farmers have benefited both from relatively low feed costs, and provincial subsidy programs designed to encourage the use of locally-grown grain.

The statistics show Ontario's not the magnet for western cattle it once was. In 1979, almost 650,000 western steers were hauled into Ontario. Last year, the influx was down to about 775,000 head — a slight increase from 1987 numbers, but down about 90,000 head from the 1986 figure. During the same 10-year period, Ontario's steer and heif-

er slaughter fell from just over one million animals to 765,000. Carter says he expects the trend to continue — barring a sharp increase in the cost of western feed.

Wags: Ontario Livestock Exchange (OLEX) manager, Jim Wildeman, says he expects the number of this fall's western steers to be lower still. "I'd be surprised if we got half of that (1988 figure)," he says.

Local operations still gap Local operator Bill Gyp Gerry Sauter, owner of The County Cattle Co. Ltd. in Harrow, has a more optimistic view of this autumn's cattle supply in Gyp and Bruce counties. "The amount of cattle that will come in from the west has decreased, but a lot of the slack's been taken up by local cow-calf

(Part 2 on Page 9)

Slaughtering-lines-expanding

Western packers aggressive for market share

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(Over a two-page story on page 9)

operators," he says. "If you go down-country there's considerably fewer cattle around." Smalzer adds, "But in our immediate area I don't think there's a lot of difference in cattle numbers (from last year). Total numbers could be down three to five per cent, but that's a small educational goal."

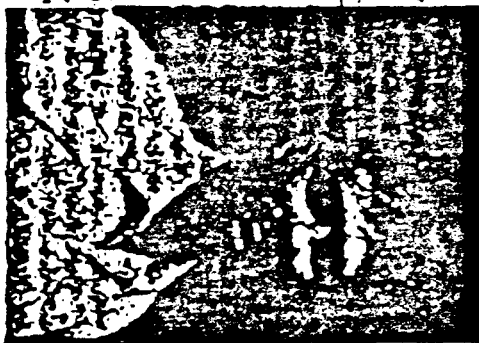
Ontario Cattlemen's Association manager Clarence Hedley says it's too early to forecast this year's stocker situation. On the demand side, Hedley says corn yields will likely compare last year's drought-withered crop, so more farmers will have feed-to-finish cattle.

Alberta industry aggressiveness. But the supply situation is still unclear. Although changes in health regulations make it easier to draw stocker cattle from Kentucky, Hedley says it's only made economic sense to import U.S. beans twice in the past five years. The availability of western cattle will also depend on how much

Alberta farmers are willing to bid on stockers. "The Alberta feeding industry has been very aggressive in the last four years, and it's optimistic about the future of cattle feeding," he adds.

Any decline in the numbers of Ontario slaughter cattle will likely hurt local beef packers. At the same time the Alberta industry is gearing up. Five packers, including Foreman in Burlington and Schneider's in Kitchener, have already either shut down their cattle-killing operations, at least temporarily, or have announced intentions to do so. A. J. M. Schneider spokesman, Al Orth, told Ontario Farmer earlier this year Ontario's slaughterhouses are only running at about 65 per cent of their capacity.

To keep their lines running, Orth says some packers have been buying finished cattle from Saskatchewan feedlots. "That's got to be economically tough to do," he says. Canada Packers Inc. spokesman Murray Stewart admits his company is concerned about the



Kevin Grier

overcapacity within the packing industry. He points to plant closures and cutbacks as proof of the declining number of slaughter cattle, and suggests the trend may continue. "We don't ever say publicly what our volumes are in our killing plants, but we intend to keep our operation (in Burlington) as efficient as possible." The Alberta industry is livelier.

The new Cargill plant is already killing 600 cattle a day. By next year, Grier says, the plant should be slaughtering 1,200 steers and heifers daily on one shift, and capacity could be doubled with the addition of an extra shift.

To compete with the large new

plant, other western packers, including Canada Packers and XL, are snatching up and expanding their own slaughtering lines. Labrade Packers and Centennial Foodcorp Ltd., have also announced plans to merge their beef packing operations, making them better able to compete for western slaughter cattle.

"Labrade has been regarded as one of the most efficient beef packers in Canada," Grier says. The new Labrade Centennial Corp. should be able to slaughter 9,000 cattle per week, while benefiting from an integrated feedlot and feed operation, and strong marketing connections to the hotel and restaurant industry.

Competition bids up prices. The competition among packers in bidding up prices for western finished cattle, while driving grocery store beef prices in the prairie lower. "Cargill is selling beef dirt cheap, so they're buying market share," Grier says. "I think Cargill will be shipping more beef to Ontario," he adds.

Cargill has already set up a mar-

keting office in Brampton, and has been selling vacuum-packed beef from its Missouri operation into No-Frills grocery stores in Ontario.

The combination of a limited self supply, and shipments of western beef could put Ontario packers under a lot of pressure. But Grier concedes Ontario cattle men that a restructured local packing industry isn't all bad. "Less efficient packers will simply put that money into businesses offering bigger profits leaving the strongest packing companies to compete."

"It's shocking, coming from Alberta that are going to make a bet next year," Grier says. "Swedish weak packing plants do not do a cattle feeder any good. But sit or seven strong ones would."

"The CIP food cattle company, they're in Ontario," he adds. "We have a land-based industry, we have the grain, we have a more moderate climate than the west, so we do have some definite advantages. We just don't have the capital."

Control perennial weeds

By Henry Oldenwald
RCAT

Your best opportunity to control perennial weeds such as the the, quackgrass and bindweed, comes as a subtle treatment after wheat harvest.

Most of these deep rooted perennial weeds are most susceptible to herbicides when they are at the bud stage. If you this

ground and wait until the regrowth is in the bud stage. Barvel can be used to control this, however, if quackgrass is also present in the field then Roundup should be used.

Roundup has to be in full flower to control. Topox or Embaton sprayed 10 days apart will give good control of bindweed and thistles.

Follow the chemical label for this and other suggestions in

AUTHORIZED FUEL INJECTION REPAIR

- CAV. LUCAS
- ROTO DIESEL
- CONDENSEL

MORRIS CHISEL PLOWS