



# TOMATO TOPICS



NEWS and INFORMATION  
FOR THE PROCESSING TOMATO INDUSTRY

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## WHERE DOES YOUR RESEARCH & DEVELOPMENT LEVY GO?

The Research and Development (R & D) Levy consists of 50% grower and 50% processor contributions. In addition to this levy paid by the processors and growers, industry research projects are generally co-funded by the Horticultural Research and Development Corporation (HRDC). Four times each year the APTRC meet to determine where these research dollars will be spent. The research committee consists of 5 processor representatives and 5 grower representatives. All APTRC funded projects for the 2000/2001 year are detailed below.

### IPM Tomatoes 2001

This project commenced on the 1<sup>st</sup> July 1998, and due to complete on the 30<sup>th</sup> June 2001. Matching funding has been obtained from the HRDC to conduct this project. The project coordinator is Jane Moran (DNRE-Knoxfield).

The IPM project incorporates all the current research into pests and diseases of significance to the processing tomato industry. The research team incorporates a number of different people, all with skill in different areas. Sandra McDougall (NSW Agriculture), the research entomologist, along with Ary Hoffmann, a Professor from LaTrobe University are responsible for the research into effective insect control. Liz Minchinton (DNRE-Knoxfield), a plant pathologist is primarily involved in developing strategies to control the fungal disease, in particular powdery mildew. Liz has also been involved in the previous years with the bacterial canker survey and collection of samples for further analysis through DNA fingerprinting.

Trial work being conducted this season include:

- Further investigations into fungicides to control powdery mildew, that are also "soft" on *Trichogramma*.
- Experiment to help us understand the biology of powdery mildew, so we can begin to use predictive

models.

- Best Management Options , being conducted in NSW (Stott & Amaro's) and Victoria (Moon & Hill).
- Continued research into the effectiveness of new chemicals on insect control.
- Investigate the persistence of released *trichogramma sp.* in the field.

Funding for 2000/2001 = \$68,778

### Sustainable Processing Tomato Production

This project commenced on the 1<sup>st</sup> September 1999, and is due for completion on the 30<sup>th</sup> December 2000. Matching

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funding has also been obtained from the HRDC for this project. The project coordinator is Peter Fisher (DNRE-Tatura).

This project involved 3 main components.

1. Survey of farmer management practices and perceptions of problems relating to sustainable production.
2. Preliminary measurement of changes in the growing environment associated with these practices.
3. Dissemination of project outcomes.

Funding for 2000/2001 = \$40,682

#### **Introduction and Screening of Improved Cultivars**

This project commenced on the 1<sup>st</sup> July 1998, and will be completed on the 30<sup>th</sup> June 2003. Matching funding has been obtained from the HRDC for the duration of this project. The project coordinators are Bill Ashcroft (DNRE-Tatura) and Stephen Wade (NSW Agriculture).

The primary outcome from this project is to increase field and factory productivity within the Australian industry through the adoption of improved cultivars. Close links with overseas seed sources are used to obtain appropriate tomato cultivars, which are then tested to identify which cultivars are most appropriate to the Australian industry.

Funding for 2000/2001 = \$41,424

#### **Improved Management of Nightshade**

This project commenced on the 1st October 2000, and will be completed on the 30th June 2003. Matching funds have been obtained from the HRDC for the duration of the project. The project leader is Matt Sherriff from Serve-Ag Research.

This project will concentrate on generating the registration data required to obtain registration for a herbicide currently used in both the Canadian and Californian Processing Tomato industries. In addition a range of new herbicides will be screened that have shown potential for nightshade control in other crops. Three trials are being conducted this season, with two in Victoria, and one in NSW.

Funding for 2000/2001 = \$8,800

#### **Increasing Soluble Solids Levels with Critical Irrigation and Fertiliser Management**

This project commenced on the 15<sup>th</sup> October 1999, and will be completed on the 15<sup>th</sup> October 2001. Matching funds have been obtained from the HRDC for the duration of the project. The program leader is Peter Stork (DNRE-Tatura).

This project came about as the average soluble solids levels in the processing tomato industry have been showing a decreasing trend over the last few years. This is an important issue as the cost of processing increases with lower soluble solids, and a continued decline could threaten the international competitiveness of the industry.

Trials this year will be conducted at Dennis Moon/Mark

Hills, Darryl Rathjen and Stuart Hills properties. In addition to the work being conducted by Peter Stork, Chris Ryan from Pivot fertilisers-Colbinabbin will be conducting a trial to investigate the effect of Molybdenum on Soluble solid levels. Other trials to be conducted under this project include a number of smaller on-farm trials further evaluating the effect of irrigation cut-off on soluble solid levels.

Funding for 2000/2001 = \$50,602

#### **WFT/TSWV: Vegetable Communication Project**

This project has only recently commenced (1<sup>st</sup> August 2000), but is a continuation from the National Strategy for the Management of WFT and TSWV project. It is due to complete on the 30<sup>th</sup> June 2003. Program leader is Bernadette Swanson (DNRE-Knoxfield). This project is of interest to the Processing Tomato industry as WFT could devastate the Processing Tomato industry if they were to enter the growing regions.

The current communications project will firstly concentrate on the development of training packages, aimed to assist growers to identify and manage WFT and TSWV.

Funding for 2000/2001 = \$3,000

#### **Bioassay and Field Trials on WFT to Maintain Industry Access to Pesticides**

This project commenced on the 1<sup>st</sup> July 2000, and will be completed on the 30<sup>th</sup> June 2003. The Program leader is Grant Herron (NSW Agriculture). This project aims to ensure that effective control of WFT is maintained. The National Registration Authority requires ongoing pesticide efficacy to maintain the current chemical permits for WFT control.

Funding for 2000/2001 = \$5,000

#### **Enhanced Biodegradation of Soil-Applied Pesticides**

This project commenced on the 1st February 1999, and will be completed on the 31st January 2003. The project leader is John Matthiessen (CSIRO Entomology). The project concentrates on the use of the soil fumigant, metham sodium. Three processing tomato soils were tested last season, but at this stage none show evidence of enhanced biodegradation. Currently the members of the research team are doing a major laboratory study looking at factors affecting induction of enhanced biodegradation using a sand and a loam.

Funding for 2000/2001 = \$3,300

#### **Technology Transfer**

This project commenced on the 1<sup>st</sup> July 1998, and will be completed on the 30<sup>th</sup> June 2001. The project aims to improve the awareness and adoption of technology, particularly by the growing sector of the industry.

The Industry Development Manager will once again be involved in the production of the Annual Processing

*(Continued on page 3)*

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Tomato Grower Magazine and the quarterly *Tomato Topics*. Other ongoing activities include the discussion groups and the tomato women's network. The Industry Development Manager has also been involved in putting together the itinerary for the planned Canadian and Californian visit in January 2001. Other activities include an involvement in research project steering committees, and also on-farm trails.

Funding for 2000/2001 = \$80,643

**Industry Reports**

Since the 1995 benchmarking study 5 annual industry surveys have been conducted. The aim of these industry reports is to present comprehensive, reliable and unbiased information for all sectors of the industry. The survey is also partially funded by the HRDC

Funding for 2000/2001 = \$9,700

**R&D PLANNING FOR THE FUTURE**

On 7<sup>th</sup> December, Ian Bryce, Liz Mann, Brian Walker and Peter Gray met with Sze Flett, Jane Moran and Peter Fisher of DNRE to discuss the future of the sustainability and IPM research. The current sustainability project will be completed this month, and the IPM program is due to finish in June 2001.

During a workshop at Moama in August this year, a number of ongoing actions had been identified for the two projects, and some of these had been prioritized by the growers who were present. The purpose of the meeting on the 7<sup>th</sup> seemed to be about deciding how these actions could be completed, and whether or not there would be two programs or one main program.

However, during the meeting, the DNRE staff suggested that we should not commence any new research until we

had worked out whether or not it would provide direct benefit to the industry. How much of our past research had been of benefit? This is a very realistic approach to the subject, and challenges the industry to not undertake more research without thinking about why we were doing it.

In summary, the main points from the meeting were:

- Don't commence any new research until we have identified what we should be doing and why.
- The type of research we should be doing really has to be properly planned, to ensure as far as possible that it would provide a definite payback to the industry.
- The R&D did not necessarily have to be carried out by DNRE. If they were the best at the job, that would be fine but, equally, the research could be carried out by another agency. We should seek the best expertise for each part of the research program.
- Our current R&D Plan was due to be completed in 2001. It was timely, therefore, that we consider a planning process to put the next five to ten year plan in place.

These issues will be discussed at the next APTRC meeting in January.

**FARM DAMS SOFNET BROADCAST**

The VFF Farm Dams Review Committee chaired by Don Blackmore will be launching its interim Farm Dams Report via a sofnet broadcast on Thursday, 14<sup>th</sup> December at 7.30pm. The broadcast will be 1 hour in duration, with 40 minutes being allocated for questions.

The Committee proposes to recommend that farmers private right to build irrigation and commercial use dams off waterways be removed.

**INSECTICIDE RESISTANCE MANAGEMENT STRATEGY**

That time of the year has arrived again when processing tomato crops require spraying for *Heliothis* control. The main species of *Heliothis* currently being found is *H.armigera*. This species is becoming increasingly more resistant to the most commonly used insecticides. To ensure that the currently registered chemicals remain effective it is essential to follow the Insecticide Resistance Management Strategy for southern NSW and Northern Victoria.

The strategy consists of the following:

	<b>STAGE 1</b>	<b>STAGE 2A</b>	<b>STAGE 2B</b>	<b>STAGE 3</b>
<b>TIME OF YEAR</b>	Upto Nov. 7	Nov. 8 – Dec 31	Jan 1 – Jan 31	From Feb 1
<b>CHEMICAL</b>	All chemicals	Non carbamate & non pyrethroid insecticides*	Non carbamate & non pyrethroid insecticides	Carbamate & pyrethroid insecticides

**Note:**

Biological insecticides (Bt, NVP) - maximum of 2 sprays permitted per season

\*Carbamate and Pyrethroid insecticides may be used in rotation when insect pressure requires more than 2 sprays in Stage 2a

## JANUARY DISCUSSION GROUPS/EXCHANGES

Due to the number of overseas visitors traveling around the processing tomato growing regions in January it has been decided that the regular discussion group meetings will not be held. Instead growers will be invited to travel to tomato growing regions outside their own, to not only see how other growers in the industry are coping with the season, but to also spend time interacting with the overseas visitors.

Particular Events for Australian Processing Tomato Growers/Processor Representatives:

### Wednesday 10<sup>th</sup>-Thursday 11<sup>th</sup> January, 2001

- Visit to Lamittina's Carrot Farm, Robinvale. An opportunity to hear how the farm has developed over time, and how they now go about managing their business. Also included in the day will be a visit to a fresh fruit packing shed near Swan Hill, and a winery/vineyard. Stay at the Swan Hill Resort and Motor Inn

*We will depart Kerang at 8:00 am on the Wednesday, returning 10:00 am Thursday.*

***RSVP to Liz Mann (0427 857 578) by the 3<sup>rd</sup> January, 2001***

### Friday 12th January, 2001

- All growers invited to join the Canadian Representatives at the Colbinabbin pub for lunch at *noon*. This lunch is sponsored by the APTRC, but RSVP is essential.

***RSVP to Liz Mann (0427 857 578) by the 3<sup>rd</sup> January, 2001***

- All grower representatives from the APTRC and APTIC are invited to join the Canadian representatives for the afternoon (from 3:00 pm) to discuss issues of concern across both countries. Representatives are also invited to join the Canadians for dinner at Oscar W's. RSVP is essential

***RSVP to Liz Mann (0427 857 578) by the 3<sup>rd</sup> January, 2001***

### Wednesday 24<sup>th</sup> January, 2001

- Boort/Kerang growers along with the Southern Riverina/MIA growers invited to visit the Rochester-Colbinabbin area. This visit will be held in conjunction with the Californian visit, incorporating presentations by Netafim on drip irrigation.
- In addition an industry luncheon, sponsored by the APTRC will be held at Rochester, in Marrone's Shed at 12:30 (noon) The Californian farm advisors will be also giving short presentations on the work with which they are involved in the USA. All growers are invited to join the Californians for Dinner that night at the Echuca Cellar Door Restaurant.

***RSVP to Liz Mann (0427 857 578) by the 18<sup>th</sup> January, 2001 (especially if you intend to attend the lunch)***

### Thursday 25<sup>th</sup>-Friday 26<sup>th</sup> January, 2001

- Boort/Kerang growers, along with the Rochester/Colbinabbin growers are invited to join the Californian group on a visit to Barooga, MIA and Hillston. This tour will also include a visit to Kooba station. Stay at the Kidman Way Motel. *The bus will depart Cedenco at 10:30 am, and returning to Echuca around tea time on Friday.*

***RSVP to Liz Mann (0427 857 578) by the 18<sup>th</sup> January, 2001***

- MIA growers are also invited to join the Californian group for drinks and dinner on the night of the 25th at the Kidman Way Motel

***RSVP to Liz Mann (0427 857 578) by the 18<sup>th</sup> January, 2001***

## NEW PUBLICATION AVAILABLE—Free of Charge

**TITLE: *Subsurface Drip Irrigation for Broadacre Crops***

Available from: Sonia McCormick, DNRE-Tatura, phone: (03) 5833 5975, email: Sonia.McCormick@nre.vic.gov.au



## UPCOMING EVENTS

### *7<sup>th</sup>-14<sup>th</sup> January 2001:*

Visit by 5 representatives from the Ontario Vegetable Growers Board.

Itinerary:

**Monday 8<sup>th</sup>**—DNRE, Knoxfield (am), and Netafim Factory (pm)

**Tuesday 9<sup>th</sup>**—Tatura (am), SPC factory tour (pm)

**Wednesday 10<sup>th</sup>**—Visit Lamattina's carrot farm (Robinvale), followed by a winery visit, stay in Swan Hill for the evening

**ALL AUSTRALIAN GROWERS ARE WELCOME TO PARTICIPATE IN THIS DAY**

**Thursday 11<sup>th</sup>**—Return to Kerang, and visit farms in Boort area

**Friday 12<sup>th</sup>**—Visit farms Rochester-Colbinabbin area. Lunch at the Colbinabbin pub, all growers welcome, sponsored by the APTRC

**Saturday 13<sup>th</sup>**—Return to Melbourne

### *15<sup>th</sup>-23<sup>rd</sup> January 2001:*

Visit to Australia by Hillel Manor, a vegetable extension specialist from Israel

### *21<sup>st</sup>-30<sup>th</sup> January 2001:*

Visit by a group of Californian processing tomato growers, farm advisors, processor representatives, and support service representatives.

Itinerary:

**Monday 22<sup>nd</sup>**—Unilever Representatives (am), and Netafim Factory (pm)

**Tuesday 23<sup>rd</sup>**—SPC factory (am), DNRE Tatura (pm)

**Wednesday 24<sup>th</sup>**—Visit growers Rochester-Colbinabbin area.

**Lunch at Marrone's Shed—Rochester, sponsored by the APTRC.**

All growers invited (RSVP essential). Following the lunch the Californian Farm Advisors will give short presentations of their work.

**Thursday 25<sup>th</sup>**—Tour Cedenco Factory (am), Barooga (pm)

**Friday 26<sup>th</sup>**—Visit to Koba Station, and Hillston

**Saturday 27<sup>th</sup>**—Visit growers Boort-Kerang

**Sunday 28<sup>th</sup>**—Lunch on-board the Emmy Lou Paddle Steamer—Echuca

**Monday 29<sup>th</sup>**—Farm Advisors to visit DNRE-Tatura to discuss the work they are currently involved with. **ALL PEOPLE WELCOME TO ATTEND**

**All Australian Growers/Processors are invited to participate in either all/part of the above tours. Please contact Liz Mann (0427 857 578) to coordinate this, and arrange a meeting point.**

**\*In addition to the Californian tour a tour will be conducted for partners. It is envisaged that this partner tour will take in the culinary delights of the Rutherglen—Beechworth region. Details will be posted out to growers closer to the time.**

***Thursday 31<sup>st</sup> May 2001***—Annual Australian Processing Tomato Forum

**CULTIVAR TRIAL SITES: 2000/01**

Early Maturing

- ❖ Rob Hosking - Boort
- ❖ Richard Stott - Darlington Pt (replicated and machine harvested trials)

Mid-season Paste

- ❖ Tony and Ches Marrone - Corop
- ❖ Sergio Rorato - Jerilderie (replicated and machine harvested trials)

Mid-season Whole-peel

- ❖ John Pike - Colbinabbin
- ❖ Neessen/Kirchhofer - Jerilderie
- ❖ Bruce Weeks - Rochester

Transplant trial (large vine types)

- ❖ Dennis Moon - Rochester

**PROCESSOR TRIALS (2000/2001)**

Note: Any visits to trial sites MUST be arranged through the processor and grower involved.

Processor	Grower	Cultivars
<i>Ardmona</i>	Cardillo Weeks Cox Walsh Sellwood Robinson	CXD 204 & Falcorosso CXD 204 Falcorosso Heinz 9509 Heinz 9614 Heinz 9509, OX 38 & Sun 640
<i>Heinz</i>	Rathjen – transplant Ellis - transplant Hamilton - transplant Kennedy - transplant  Touhey – direct seeded Kooba – direct seeded Sawers – direct seeded	Hz 9280 3100 Hz 9507 3500 Hz 9928 3400 Hz 8704 3601  Hz 9509 3701 Hz 9614 3801 Hz 9144 3901 Hz 9723 4001 Hz 9825 4101 Hz 9927 4201 Hz 9035 4301 4401
<i>Unilever</i>	Lehmann Gugliotti Hosking	Unilever Hybrids Unilever Hybrids Unilever Hybrids
<i>S.P.C.</i>	Campaspe Farms Foote & Wolfe Ryan Spencer North Central Production Hosking Cardillo	SPS 7482 Bingo 606 & FMX 1031 Bingo 606 & SPS 7483 SPS 6868 FMX 1031 Bingo 606 Bingo 606 & FMX 1031
<i>Cedenco</i>	Hillston/Griffith Rosaia Monagatti Also	CXD 206 LV 502, LV 503, Sun 653 & ENP 113 FMX 1031 Heinz 9928, Heinz 9144, UC 82B, Carato & Sun 615

**FOR SALE :**      2 Tomato Harvesters :      1 Johnson & 1 Guaresi  
 Johnson Parts New & Used, John Deere 6466 TR-07 Engine 10,000 hours,  
 Tools and Equipment      **For inquiries**      **Phone: 0418 360449**

## NEW VARIETY DEVELOPMENTS HOLD PROMISE FOR AUSTRALIA

*Bill Ashcroft, NRE Tatura*

As part of the industry's Cultivar Improvement Program, I visited the USA and Canada in June to attend the tomato Congress in Sacramento, and to visit processing tomato breeders and researchers. The purpose of the trip was to maintain contact with key programs in North America, to make sure they were aware of our requirements, and to start collecting new material for trials this season. The major message I pushed was that we need good field holding (to withstand both rain and heat) in the lines they send us, and I also stressed the importance of soluble solids.

All together, I visited 13 seed companies and 3 independent breeders in the USA and Canada. The Congress also provided an opportunity for me to meet with seed company representatives from Europe (Italy and Turkey).

There has been a significant change among US seed companies, who have traditionally bred varieties for California, to seriously consider global markets. Heinz dominates processing tomato seed sales around the world (40% of the Californian market, 30% worldwide), and many other companies are beginning to look at the reasons behind Heinz's success. A major one is that Heinz conducts a worldwide screening program (with a site in Australia), and combines material from both California (where summers are hot and dry) and the mid-west (where crops are generally not irrigated because it rains so much). Most Californian-based seed companies are now developing linkages in the mid-west - particularly with the Ohio State University program run by breeder David Francis. This should result in a range of new varieties that will withstand rainfall (with respect to foliar diseases and fruit rots) as well as heat. Apart from Heinz, the most advanced companies in this regard are Campbell's and Peto Seeds - both of which have had active programs in the mid west for many years. United Genetics (through breeder Remo Ludergrani) also has a very active program in Europe, and a good knowledge of Australian requirements.

Most companies are also striving to expand the range of disease tolerances they can offer, with work on Phytophthora root rot, corky root, powdery mildew (the American type) and early blight (alternaria) commonly mentioned. There was little or no work on bacterial canker or bacterial speck (Race 1). The genetics of extended field storage (fruit holding) is also being investigated by many companies. Heinz leads the industry in this, and have used mutant lines with delayed ripening characteristics as parents for their hybrids. One drawback with such work is that the slow-ripening mutants lack good colour, and it takes time to develop the right parents for production of commercially acceptable hybrids. The health benefits of lycopene (the red pigment in tomatoes) were emphasised at the Congress, and many tomato breeders are now developing high-lycopene varieties in response to market demand.

The Californian industry project to develop a new generation of open-pollinated (OP) varieties, and thus reduce seed costs, is also nearing completion. Tomato breeder John Prendergast has selected 15 of the most promising lines, and planted them for evaluation at 60 locations across California. Results of these trials should soon be available, and while these lines have been developed for California, we hope to gain access to them for trial under Australian conditions in the near future.

I was also able to visit several tomato breeders in Canada on this trip. Their major focus is whole-peeling, and fruit colour is a high priority. They were keen to learn of our program and requirements, and some of the lines they are developing (particularly those with canker resistance) could be relevant in the future. There were concerns about the firmness of Canadian material under our conditions however, and while this is a recognised problem and they are working to develop firmer varieties, there was nothing available to suit our needs at this stage.

As a consequence of the visit, over 200 lines will be field tested in Australia this season. A list of trial locations also appears in this issue, and field days will be advertised for all sites closer to harvest.

A full trip report has also been prepared, and is available on request.

**Acknowledgement:** I am grateful to the APTRC, HRDC and DNRE Victoria for providing funding for this trip, and to the seed producers and researchers I visited for their warmth and hospitality.

### FOR SALE — NO LONGER REQUIRED APTRC COMPUTER

Pentium 100 Computer  
16 mega bite hard drive  
1.96 GB Hard drive

Computer includes a CD Rom, Windows 95, and MS Office

The computer has previously been used to access the internet, but external modem is no longer available.

**Cost \$500 ONO**  
**Phone: Liz Mann**  
**(03) 5825 4633**

## **HORTICULTURE AUSTRALIA LIMITED**

The senate has recently passed a legislation paving the way for the establishment of a new horticultural company—to be known as Horticulture Australia Limited. This company will be formed when the assets, liabilities, and staff of the existing Australian Horticultural Corporation (AHC) and the Horticultural Research and Development Corporation (HRDC) are transferred to the new company.

The formation of the new company has strong industry support and is culmination of over two years of hard work by the industry in partnership with the government.

The new company arrangements are expected to deliver significant benefits to the horticultural industries. The company will be driven and controlled by industry, but will have a strong level of accountability for performance built in for its members, levy payers, and to the government who will be providing matching R & D funds on behalf of the taxpayers

The Horticulture Australia Limited Board will be announced shortly, and it is expected that the company will commence business early in 2001.

## **PESTICIDE SET TO MAKE A KILLING**

As global opposition to chemical pesticides mounts and the agricultural community desperately searches for safe alternatives, a Melbourne company has boosted production of a biopesticide that will compete with existing chemical products.

Analytica Ltd, which owns the technology for a product

called Galaxy V4C, is beginning large-scale production of the biopesticide in conjunction with the Taiwanese government and a Taiwanese company. Analytica's chief executive, Mr Robert Reardon, said yesterday the joint venture hoped to beat rival products to market.

The US Environmental Protection Authority has approved and registered Galaxy V4C, which is expected to go on sale in the US within 12 to 24 months.

Mr Reardon said sales revenue could amount to more than \$US7.5 million in the first year, but that it would supply only a fraction of the demand for vegetable crop protection, estimated to be worth \$US 280 million annually worldwide.

"Countries such as the US, Argentina, Brazil, Canada, China and Australia are particularly concerned about the potentially catastrophic effect of leaching into soil and waterways," Mr Reardon said. "This is certainly the case with cotton pesticides flowing into the Murray-Darling Basin." He said the Brazilian government had banned chemical pesticides as early as 1988 and was now starting to use biopesticides to protect its huge soy crop.

Galaxy V4C is an environmentally safe viral pesticide that makes use of a natural virus that exists on plants. It is insect specific and has no effect on humans.

Researchers at the University of Melbourne's Department of Genetics said the cost of developing new chemical pesticides to replace those to which insects had become resistant was an enormous and costly problem. The department is focusing on the use of growth regulators - insecticides that kill by disrupting the growth of the pest and its reproduction.

*Extracts taken from the Australian Financial Review, 1/12/00*

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