



RAISIO GROUP
ENVIRONMENTAL REPORT
2000



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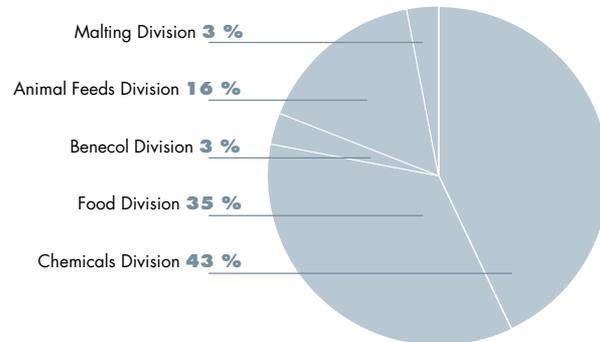
RAISIO GROUP

Raisio Group is a growing international group which produces paper chemicals, foods, functional food ingredients, animal feeds and malts. The company dates back to 1939, when Oy Vehnä Ab was founded.

Consolidated turnover was around EUR 800 million in 2000, with international turnover accounting for 50 per cent. The Group employs some 2,800 people, 40 per cent of them outside Finland. The Group has production plants in 26 locations in 13 countries. The shares of the Group's parent company Raisio Group plc have been quoted on Helsinki Exchanges since 1989.

Wherever its operations are located, Raisio Group has a responsible approach to the environment, society, the local community, employees, customers, shareholders and other stakeholders.

Turnover by division



Chemicals Division

The Chemicals Division produces paper chemicals and is Raisio's most international sector. It aims to develop into a globally important and recognized supplier of chemicals and chemical concepts for the paper and board industries. Its operations emphasize extensive R&D in close cooperation with customers. The customers are world-scale corporations, which is a major challenge to Chemicals Division's expertise and ability to develop.



Raisio focuses on functional paper chemicals used to enhance paper quality and properties. Its extensive product range comprises chemicals for paper and board production, paper machine wet end chemicals, surface and coating chemicals and specialty chemicals.

Food Division

Raisio Group's Food Division manufactures and markets grain and vegetable oil products and processed potato products for consumers, institutional kitchens, bakeries and industry. Product development particularly stresses functional and highly processed foods.

The mills at Raisio and Nokia process some 60 per cent of the wheat grown for industrial use in Finland. The product range includes flours, flakes, pastas and rice.

The margarine industry has production plants in Finland, Sweden and Poland. The product range includes margarines, vegetable fat spreads, edible oils, vegetable fat cheeses and frozen pastry. In Sweden, Raisio also makes ice-cream and almond paste. Raisio's Vihanti plant produces potato products including French fries, mashed potato powder and several special products.



Benecol Division

Benecol is a pioneer in functional foods. The first product was introduced to the Finnish market in 1995, and today there is an expanding range of different Benecol products. These fall into the specialized food segment between medication and food, which divided into nutrition supplements and functional food ingredients. Cholesterol-reducing foods, among which Benecol is probably the best-known brand in the world, are an important sector of functional ingredients.

The aim of the Benecol Division is to build a worldwide partnership network



for marketing cholesterol-reducing stanol and sterol esters to consumers in various forms of food.

Animal Feeds Division

Animal Feeds Division is a leading Finnish feed mix manufacturer that has marketed feeds for over 50 years. Raisio produces highly processed feed mixes for livestock and special feeds for fish and fur animals. It has production facilities at four locations in Finland.

Raisio Feed's goal is to develop feed mixes that improve the efficiency of animal husbandry and the quality of the end-product, reduce the nutrient load on the environment, and are based on tight hygienic control of the raw material.



Malting Division

Raisio has produced malts since the 1950s. The Malting Division's aim is to be a growing and developing unit forming a link in the value chain of brewery products as barley is processed into beer. The Raisio malting plant is the largest production unit in northern Europe, producing 105,000 tonnes of malts per year.

Raisio produces and markets brewery malts both for Finland's domestic market and for export. Exports constitute some 70 % of production. Beer malts are exported to many countries, including Russia, Brazil, Sweden, Norway and the Baltic States.



SCOPE OF THE REPORT AND CHANGES IN THE GROUP STRUCTURE

The Raisio Group Environmental Report is limited to the environmental aspects of our own business operations. Thus emissions caused by the generation of bought-in energy, for example, are not included in the report, whereas emissions caused by our own energy generation are included. The information in the report has been compiled from questionnaires filled in by individual production units, in the form of an annual summary.

This report provides information on the associated companies and subsidiaries where the Raisio Group had a holding of at least 50% in 2000 and which are involved in production. One new company, Raisio Quimica Andina S.A., operating in Colombia, is

included in this report, while the Prince George production unit in Canada, which was sold during the year under review, has been omitted. At the beginning of August 2000, the Chemicals Division and a French company called Rhodia established a joint company called Latexia S.A., of which each has a 50 % holding. This report includes information on Latexia Suomi Oy (previously Raisional Oy) and Latexia SB Oy (previously Raision Lateksi Oy), both in Anjalankoski, Finland, which were formerly part of the Raisio Chemicals Division and are now subsidiaries of Latexia.

The pet food production unit in Hämeenlinna, which was part of the Animal Feeds Division, was closed down in 2000.



The Raisio Group is committed to increasing human and animal welfare in accordance with the principles of sustainable development. Care for the environment is of prime importance in producing and developing quality products, whether they be foods, paper chemicals, animal feeds or malts. In all our daily activities we must be able to live up to our customers', partners', employees', shareholders' and other stakeholders' belief that the Raisio Group is a good 'corporate citizen', consistently complying with all local, national and international laws and agreements.

The environmental policy approved by the Group's Board of Directors requires us to base all our product and process development on environmental, health and safety considerations. The Group's main sustainable development principle is that our production processes must rely on renewable natural resources. Our Food and Animal Feeds Divisions use only renewable arable products or other raw materials from renewable sources. The raw materials used by the Chemicals Division, too, are mostly renewable arable products, though its customers also require its suppliers to offer products incorporating processed petroleum-based raw materials.

The Board of Directors has declared adoption of an environmental management system to be an important target at the Group level. Jointly with the general quality management systems, this constitutes a comprehensive operating system that allows our environmental goals to be reached. All our business divisions have already adopted the principles of environmental management, and most of our production plants have created an environmental system for themselves based on ISO 14001. In addition, the environmental management system was extended last year to raw material procurement.

Continuous improvement in environmental matters demands effort from the whole staff at the day-to-day level, and the guidelines laid down by the Board apply to us all. Scrupulous concern for environmental matters is not a separate project, but part of our everyday operations and business development towards solid competitiveness.

*Rabbe Klemets
Chief Executive*

ENVIRONMENTAL MANAGEMENT

In the Raisio Group, each division is responsible for environmental and safety affairs in the same way as for financial performance. Each division has sound environmental skills related to their sector. Most

environmental management systems adopted by the divisions comply with the ISO 14001 standard and many of them have been certified.

Environmental and quality systems within the Raisio Group

	Environmental system	Quality system
Chemicals Division		
Raisio Chemicals Ltd (Raisio, Mietoinen, Anjalankoski)	ISO 14001	ISO 9001
Oy Kationi Ab	ISO 14001	ISO 9001
Finnamyl Ltd	Under preparation	ISO 9001
Lapuan Peruna Oy	ISO 14001	ISO 9001
P.T. Intercipta Kimia Pratama	–	ISO 9002
Raisio Belgium N.V.	Under preparation	ISO 9002
Raisio Chemicals Canada Inc.		
Squamish	Under preparation	ISO 9002
Trois-Rivières	Under preparation	Under preparation
Raisio Chemicals Deutschland GmbH	–	Under preparation
Raisio Chemicals Korea Inc.	–	Under preparation
Raisio Chemicals Paperion S.A.	Under preparation	ISO 9002
Raisio Chemicals UK Ltd.	ISO 14001	ISO 9002
Raisio Chemicals US Inc.	Under preparation	ISO 9002
Raisio France S.A.	ISO 14001	ISO 9002
Raisio Grain Starch Ltd	ISO 14001	ISO 9001
Raisio Svenska AB	ISO 14001	ISO 9001
Latexia, Norlatex Oy	ISO 14001	ISO 9001
Latexia SB Oy	ISO 14001	ISO 9001
Latexia Suomi Oy	ISO 14001	ISO 9001
Latexia Sverige AB	Under preparation	ISO 9002
Latexia Österreich GmbH	Under preparation	ISO 9001
Food Division		
Carlshamn Mejeri AB	ISO 14001	–
Melia Ltd (Nokia, Raisio)	Under preparation	ISO 9001
Raisio Group, Raision Margariini	Under preparation	ISO 9001
Raisio Group, Potato Processing Industry	–	Under preparation
Benecol Division		
Raisio Benecol Ltd	Under preparation	–
Animal Feeds Division		
Raisio Feed Ltd (Raisio, Oulu, Anjalankoski)	ISO 14001	ISO 9001
Raisio Group, Oil Milling Industry	Under preparation	ISO 9002
Malting Division		
	ISO 14001	ISO 9002
Service Functions		
Purchasing & Logistics	Under preparation	Under preparation

Setting environmental objectives and targets at Group level is the task of the management meeting. Managing environmental issues comes within the area of responsibility of Kauko Mannerjärvi, CFO.

Maritta Punta, head of Energy and Environmental Services is responsible for coordination of environmental affairs at Group level.

ENVIRONMENTAL POLICY

The environmental policy has been accepted by the Board of Directors of Raisio Group plc.

The Raisio Group develops, manufactures and markets paper chemicals, foods, functional food ingredients, animal feeds and malts. In so doing, it observes the principles of sustainable development, and of protecting nature and the environment.

We are committed to the "Business Charter for Sustainable Development" (International Chamber of Commerce, 1990). In addition, Raisio Chemicals Division participates in the chemical industry's international Responsible Care program. Thus we are committed to continuous upgrading of our operations in respect of the environment, health and safety.

We require each of the Group's divisions to have an environmental management and control system. Each division is responsible for setting detailed goals under the Group's environmental policy and for attaining them.

Our environmental principles apply to all Group activities around the world. We undertake to observe all local, national and international regulations and agreements bearing on our operations.

We use renewable natural resources almost exclusively as raw materials. In cooperation with our contract farmers and other subcontractors, we are developing methods for producing and procuring raw materials which take

full account of the environment. In choosing our partners, we value companies, communities and individuals that show awareness of environmental issues.

We develop and market products and methods which are safe to use, environmentally sound and less harmful to the environment. In planning production processes, and in our product development, we take health, safety and the environment into account throughout the product lifecycle.

We strive to use raw materials, materials and energy economically and to reduce the amount of waste and emissions we generate in both production and transportation. Thanks to the Group's internal synergy, we are able to use our raw materials to the fullest possible extent.

We prefer packaging materials which are recyclable and present no hazard to the environment.

We report openly and honestly on the environmental, health and safety impact of our activities. Our cooperation with the authorities and the public must be based on trust and continuity.

We train and motivate our staff to take responsibility for the environmental impact of their activities and to strive to promote safety, health and environmental protection.



IMPLEMENTING THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT

In its environmental policy, the Raisio Group is committed to the principles of sustainable development. It is one of the companies that has signed the Business Charter for Sustainable Development of the International Chamber of Commerce.

Sustainable development means fulfilling the needs of mankind today without endangering the chances of coming generations to fulfil their own needs. In addition to environmental issues, a healthy economy, people's social welfare and cultural values are all parts of sustainable development. Health and safety aspects of production, sound products and other attributes are closely linked with environmental issues. In the Raisio Group, environmental viewpoints are seen as wider concepts that incorporate health and safety issues.

The key aspect of sustainable development in the Raisio Group is that our operations are based on processing renewable natural resources. The Food and Animal Feeds Divisions process field products or raw materials from other renewable resources. Most of the Chemicals Division's raw materials are also renewable field products although some of them are based on products refined from crude oil.



The products and methods of Raisio's Chemicals Division cater to the needs of the paper industry, which obtains its main raw material from the forests. The Division thus contributes to the efficiency of the entire wood-processing chain. Looked at from the natural resources angle, Chemicals Division also fulfills the criteria of sustainable development. Chemicals Division is involved in the chemical industry's international Responsible Care program.

One aspect connected with people's social welfare is providing jobs for about 2,800 people in and outside Finland. When the procurement and distribution chains

are also taken into account, the employment effects are considerably greater. Ensuring the continuation of farming and keeping the countryside inhabited are linked fundamentally with the procurement chain. Finnish farmers are extremely important partners to us, both as suppliers of raw materials and as customers for animal feeds. Finnish family farmers play a key role in developing their own districts, maintaining the cultural values of the countryside and preserving the rural environment. Thus, Raisio also contributes to conservation of the rural heritage.

In the Raisio Group, environmental protection as a component of sustainable development means that taking proper care of environmental values is not only one of the core values of our production operations but also an important aspect of cooperation with our business partners. Improving the environmental efficiency of our products is an important goal in product development. This applies particularly to chemicals and animal feed products which are used by client industrial sectors that cause environmental impacts themselves. In addition to the purity and healthiness of the foods we produce, reducing the environmental impacts of packaging is a target for particular attention.

In order to respond better to the needs of consumers and client industries, special attention is given in our Food Division to developing highly processed and functional foods. Examples of our functional foods include the Benecol products containing stanol ester and Elovena Plus oat flakes containing betaglucane.

The Raisio Group has the potential to grow as a sustainable development company. Our strong points are products based on renewable natural resources and waste-free production. Environmental issues pose no threat to the Raisio Group.

SUSTAINABLE DEVELOPMENT IN R&D

Paper chemicals

The Chemicals Division considers product development as a major factor in its operations related to environmental issues. Systematic research ensures that the principles of caution and replaceability are as closely observed as possible in the choice of chemicals. The Chemicals Division uses natural raw materials and environmentally friendly production processes whenever practical. Environmental assessment covers the whole of the business chain from raw materials to customers actions in recycling and disposal of products. The principle of green chemistry adopted by the Chemicals Division promotes environmentally friendly

technology with minimum use of resources. The Chemicals Division follows a systematic environmental policy. Practical examples of this policy include the following:

- Publication of the division's environmental reports since 1995.
- Surface active agents, which are suspected to disrupt hormonal systems, have been replaced with other substances.
- Residue levels in polymers have been reduced. Substituents for monomers and other raw materials are being sought in order to reduce volatile organic compounds (VOCs), and to replace carcinogenic, mutagenic or repro-toxic substances (CMRs).

- Environmentally friendly technology is applied to the recycling and recovery of by-products which used to be disposed of as waste. One example of such technology are ultrafilters installed for the process water systems of several production plants.

Joint product development in collaboration with customers is becoming increasingly important in the field of paper chemicals. There has also been a clear trend away from individual paper chemicals thinking towards an overall understanding of chemical aspects of the paper manufacturing process. Such concepts can, for example, comprise strength, internal sizing and surface-sizing chemicals. The environmental impact of the chain can be optimised if all the materials are used with maximum efficiency.

The Chemicals Division takes an active interest in the formulation of a European chemical policy and the harmonization of various international classification and coding systems for chemicals. Raisio has decided to participate in voluntary international risk assessment programs (the ICCA HPV Initiative and the EPA Challenge Program) which are related to the chemicals produced by the company.

A new type of AKD formulation (Alkylketene Dimer) was notified during 2000. The new AKD formulation improves particularly the runnability of paper machines and thus increase their productivity.

The European Union continues to assess the risks in using cationization chemicals. The Chemicals Division participates in this process mostly by presenting calculations on the levels of cationization chemicals in paper and board products and consumers' exposure to these chemicals through food.

Reduction of chemical residues is a constant objective, and Raisio aims at producing as pure products as possible. Reduction of biocide levels is also a permanent target.

Foods

Today's people are well aware of the connection between food and health. An important part of maintaining good health and preserving the quality of life includes taking dietary aspects into account as well, such as the amount and type of fats and fibres, total energy content of the food and the bioactive compounds present in grains and vegetables.

The Food Division focuses on research and development of functional, highly processed foods with a high nutritional content. Thanks to first-rate raw materials, the Raisio Group is well equipped for this work. Results of the R&D already launched into the market include Benecol products containing stanol ester, Elovena Plus oat flakes containing betaglucane and the high-fibre Torino oat and rye pastas.

Animal feeds

The aim of product development at the Animal Feeds Division is to improve animals' utilization of nutrients contained in the feeds. In particular improved digestibility of protein and phosphorus reduces the environmental load from animal feeds.

In August 2000, Raisio Feed completed a research project on the apparent digestibility in the small intestine of amino acids in high-energy feeds of chickens. The project showed that chickens could utilize a very large proportion of the nitrogen content in the grains tested. Over 90 per cent of the nitrogen ingested was bound.

The new four-feed step feeding program was continued for turkeys, where the protein content is optimized to correspond to the growth rate of the turkeys. This reduces nitrogen emissions. Further data to find optimum levels was obtained from turkey trials carried out by the MTT Agrifood Research Finland.

The Animal Feeds Division launched a program on pig feeding called SATA 140. The program is based on results of a TEKES/EUREKA joint project where the lysine content of the feed is optimized to correspond to the growth rate of the pig, improving the use of the protein of the feed and thus reducing nitrogen excretion in the urine and dung.

The Animals Feed Division continued its research program for gathering further information on optimizing the protein qualifications of cattle feeds.

The Animal Feeds Division and the Oil Milling Subdivision continued to use traditional (i.e. non-genetically modified) soybean varieties as raw material in 2000. Apart from Finland, this is standard practice in Sweden and Norway only.

Europe was hit by several food-related crises in 2000, particularly the emergence of BSE cases in countries on the Continent which had until then been considered uninfected. The Animal Feeds Division has never used meat meal or meat and bone meal in ruminant feeds. Meat and bone meal was used in certain pig feeds and chicken feeds as a protein source until December 2000 when a complete ban on its use as a protein source was issued temporarily in the EU countries as a precaution against the spread of BSE. Finland has not had any BSE cases.

Malting

The Malting Division uses Finnish malt barley, and malt barley varieties are a particular target for product development, where the desired quality is rapid and homogeneous malting. Raisio aims to produce malt barley varieties which require less water during the malting process than the varieties currently used. High-quality barley with excellent properties makes homogeneous malts which meet brewer requirements.

ENVIRONMENTAL PROFILE

Environmental loading caused by the Raisio Group's production processes is, generally speaking, light and local. Our manufacturing processes and emissions treatment technology are, in our own assessment, of high quality and represent the best available technology.

We have been able to optimize transport systems by applying internal logistics and by careful siting of production plants. We are trying to increase round-trip transport wherever possible. External deliveries are handled in collaboration with service providers in the transport sector.

Conservation of water resources in the Chemicals Division is important, since the production process for starches, for example, consume large quantities of water. Certain synthesizing processes also produce hazardous waste. Because some of the Chemicals Division's raw

materials are in gaseous form, special treatment systems have been installed to prevent emissions being released into the air. Because emissions released by the division are low, the focus of environmental action is on damage prevention. Some of the sub-processes in the Chemicals Division consume a certain amount of energy. Many of the Division's products have especially environmentally sound features. The Division does not produce a significant number of pre-packaged products.

Production processes in the Food Division mainly deal with the treatment of dry goods. The manufacture of grain products and the handling of grain may cause a



certain amount of localized noise and dust. Because the production of margarine, ice-cream and potato products consumes water, environmental work at the production units is focused on water conservation. As the Division mainly produces consumer products, the environmental aspects of packaging methods and materials are important. Because of the considerable amount of energy required for food-production processes, energy consumption is an environmental aspect.

Benecol Division's processes use water sparingly. Some of the raw materials are volatile, but emissions to the air are minimized. Production is based on efficient use of

renewable natural resources. The Benecol Division does not produce a significant quantity of pre-packaged products.

Production of animal feeds consists mostly of dry mixing processes, and the related energy

consumption is an environmental aspect. The production also causes some slight noise, dust and odor problems. In addition to these, oil seed processing causes solvent emissions to the air. As a rule, animal feeds are delivered to customers unpacked in bulk.

As malting requires large amounts of water, the environmental aspects of malting are related to water protection. Malting also includes drying processes, which make energy consumption a significant environmental aspect.

SIGNIFICANT ENVIRONMENTAL ASPECTS AND INDICATORS

The Raisio Group's processes consume electricity and heat. The Group buys in all its electricity and more than 70 % of its heat energy.

Although Raisio does not produce its own energy and therefore does not directly generate emissions from energy production, the energy consumed has an indirect impact on acidification, greenhouse gas emissions and waste generation. For this reason energy consumption is considered a significant environmental aspect. Using emissions as indicators could lead to the use of inaccurate calculated emission equivalents, which

is why Raisio uses energy consumption as an environmental indicator.

Many of our production processes consume water, so wastewater is the most significant emission during production. Some of the wastewater is treated at our own plants, the rest is handled by partners at their treatment plants. Given that some of Raisio's water is treated outside the Group, it is impossible and indeed irrelevant to try and calculate the total wastewater load on waterways in terms of oxygen demand and nutrient load. In these circumstances the only indicator used is

the total volume of wastewater. Some of the Raisio Group's production units have permits allowing them to discharge treated wastewater directly into waterways. At these plants, oxygen demand and nutrient load are used as indicators alongside wastewater volume.

The processing of oil seed releases a certain amount of hydrocarbons into the air. The volume of these emissions is calculated using eco-accounting tools. Because of these hydrocarbon emissions, oil seed processing is subject to an environmental permit in Finland and the emissions serve as a logical environmental indicator.

Noise, odour and dust emissions are not subject to continual quantitative measurements, so no regular indicators are available.

At Raisio we are able to utilize raw materials almost completely, so from this point of view waste generation is not a significant environmental issue. Nevertheless, waste generation is an important indicator of eco-efficiency and most environmental permits involve an obligation to monitor waste levels. There are also

certain statutory obligations on the reduction and recovery of waste. It is thus logical to use waste as an environmental indicator, reporting recovery rate, the amount of waste transferred to final disposal and the amount of hazardous waste transferred for special treatment.

Pre-packaged consumer products are mainly produced by the Food Division. The EU has laid down strict targets for the use and recycling of packaging materials. Monitoring the volume of packaging materials used is a statutory requirement in the EU area, so it is used by Raisio as an environmental indicator.

As a safety indicator, we use accident rate.

The most important indicators of eco-efficiency at Raisio are energy consumption and waste generation. The indicators listed above are linked either with significant environmental issues or statutory obligations. This report also contains certain other indicators because they are being incorporated into standard reporting practice. These include emissions to air excluding solvent emissions.

CONSUMPTION OF RAW MATERIALS AND NATURAL RESOURCES

In 2000, the Raisio Group consumed a total of 2.36 million tonnes of raw materials (as against 1.94 million tonnes in 1999), 96 % of which were renewable natural resources. This clear increase is primarily due to the growing production volume of the Chemicals Division.

Most of the heat used by the Group is generated by coal or oil. Electricity is purchased on the open market with no indication of origin. Heat generated using coal is purchased from a cogeneration plant producing heat and electricity, which is fitted with a desulphurization unit. Raisio uses oil, natural gas and liquefied petroleum gas for its own heat generation.

Although the Group's production volumes have grown, the growth has occurred in sectors which demand less energy.

The consumption of electricity has declined considerably, which is at least partly due to active measures taken to save electricity but also to a slight change of emphasis between production sectors.

In order to promote recycling of packaging materials in Finland, the Raisio Group is listed on the Environmental Register of Packaging PYR Ltd and is a partner in Suomen Uusiomuovi Oy, Suomen Teollisuuskuitu Oy and Suomen Kuluttajakuitu ry. Carlshamn Mejeri in Sweden is listed on Reparegistret AB.

Consumption of raw materials and resources

	2000	1999	1998
Raw materials, million tonnes	2.36	1.94	1.90
Heat, TJ	1,476	1,465	1,400
Electricity, GWh	203	228	225
Water, 1000 m ³	3,012	2,862	3,062
Additives, tonnes	2,805	2,399	1,134
Packaging materials, tonnes	16,515	16,432	21,343

EMISSIONS

Raisio Group emissions

	2000	1999	1998
Wastewater, 1000 m ³	2,044	1,971	2,316
Atmospheric emissions			
SO ₂ , tonnes	212	211	225
CO ₂ , tonnes	38,164	26,987	31,344
NO _x , tonnes	65	71	83
VOC, tonnes	125	186	214

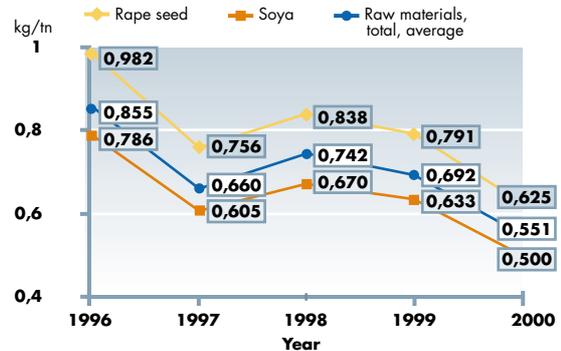
Raisio Group's emissions indicators are wastewater and VOC (volatile hydrocarbons). Other atmospheric emissions are marginal in amount and variations depend on random differences in the fuel used.

Most of the Raisio Group's wastewater is treated under contract at a special treatment plant (in most cases, a municipal plant). Usually the production unit discharges the wastewater into the sewer after preliminary treatment. To the best of our knowledge, none of our partners has exceeded the limits stipulated in wastewater permits.

The efficiency of pre-treatment of wastewaters has improved considerably at Kationi Oy in Lapua, Finland after the new aeration basin was built. Several smaller improvements have been made to the processes to reduce environmental load caused by wastewater.

Hexane missions kg/tonnes raw material

Atmospheric emissions of volatile hydrocarbons (VOC) from oil seed processing are below the EU norms (directive for rape seed 1.0 kg hexane/tonne of raw material and for soya 0.8 kg hexane/tonne of raw material).



Noise abatement is a long-term project carried out in conjunction with repairs and investments. Separate filters to reduce the noise level have also been installed. Odorous emissions from the animal feeds production have been reduced by careful selection of raw materials.

The Raisio Group prevents the release of dust using fabric filter technology, which at present can be considered to be the best available technique for filtering organic dusts in the atmosphere. The filter fabric is checked regularly and changed as required.

No evidence of soil contamination has been reported at any Raisio Group facility. The history of all production units is known and chemical tests have been carried out at a number of sites.

Loading on water from the Raisio Group's own wastewater treatment plants

	Volume, m ³			COD, tonnes			P, tonnes		
	2000	1999	1998	2000	1999	1998	2000	1999	1998
Kokemäki	132,540	101,500	82 000	35.1	12.6	16.2	0.31	0.30	0.23
Lapua	111,099	77,820	93 000	20.0	13.2	9.3	0.20	0.11	0.09
Monäs Feed	1,500	1,280	1 600	1.52	1.49	1.40	0.08	0.07	0.06
Vihanti	369,245	311,512	265 000	31.1	28.0	31.1	0.30	0.25	0.42
Total	614,384	492,112	441 600	88.0	55.0	58.0	0.90	0.70	0.80

WASTE

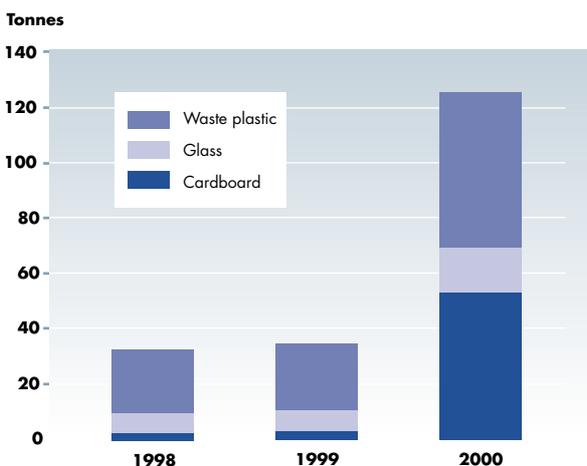
Raisio Group wastes

	2000	1999	1998
Waste for final disposal, tonnes	24,080	20,597	21,785
Recoverable waste, tonnes	51,873	45,896	37,306
Hazardous waste, tonnes	525	692	350

Only about one per cent of Raisio's raw materials and other supplies ended up as landfill waste.

Hazardous waste is delivered regularly to treatment facilities which hold the relevant permits and no significant amount of untreated hazardous waste has accumulated.

Volumes of recycled packaging waste from the Group's production plants in Raisio



Collection and recovery of waste paper and board has been further intensified, and recycling of plastics and glass has increased. While these measures are important improvements in the environmental aspects of the materials, they have little impact on the total amount of waste generated.

TRANSPORT

The Raisio Group has no transport vehicles of its own. At the moment, it is not possible to assess the environmental loading caused by contract carriers.

Five accidents occurred in the transport of our products, but none caused bodily injuries or environmental damage. Training was arranged for contract carriers on prevention of transport accidents and environmental damage.

ACCIDENTS

In 2000, the number of work-related accidents which required more than three days' sick leave at the Raisio Group was 14 (14 in 1999) per one million hours worked. The number of working hours lost because of these accidents was 1120 (1,480 in 1999) hours per one million.

Accidents

	Number of accidents per one million hours worked	Number of working hours lost per one million hours worked
2000	14	1,152
1999	14	1,480
1998	22	1,860

One fatal traffic accident took place during the year, as an employee who had called on a customer was killed in a car accident. No other serious accidents occurred.

ENVIRONMENTAL INCIDENTS

In spring 2000, there was a leak from a biocide tank at Raisio Chemicals' production plant in Trois-Rivières, Canada. Because of a health hazard, the plant was closed and employees evacuated. The area was cleaned and the air quality checked and normal operations were resumed the following morning.

ENVIRONMENTAL OBJECTIVES

The Raisio Group's environmental objectives are set at a general level and based on Group environmental policy. No new environmental objectives have been set at Group level. Each of the Group's divisions and production units define specific objectives and precise targets to be implemented within their respective environmental management systems.

The Raisio Group intends to:

- increase waste recovery and reduce the volume of waste deposited at landfills
- increase recovery of packaging materials in cooperation with organizations specializing in this field
- improve energy efficiency and choose sustainable sources of energy in keeping with international cooperation to reduce greenhouse gases.

FINANCIAL INFORMATION

The total figure for environmental and safety investments made in 2000 was about EUR 3.0 million. Environmental and safety costs arising from waste treatment, conservation of water resources and prevention of air pollution amounted to about EUR 3.5 million. Environmental protection running costs associated with waste arise from transport and treatment, with wastewater from pre-treatment and invoicing for treatment by others, and with prevention of air pollution from filter renewal and treatment of used filters. Environmental protection investments cover equipment acquisition and building costs associated with waste treatment, wastewater treatment and prevention of air pollution.

Major environmental investments

Chemicals Division

- Wastewater aeration basin, Lapua, Finland
- Wastewater balancing tank and pumping project (1999-2000), Raisio, Finland
- Improvements to wastewater treatment (1999-2000), Toulouse, France
- Resurfacing of factory floor in accordance with official recommendations (1999-2000), Mainz-Laubenheim, Germany
- New caustic chemical tank with containment area, Berwick, USA
- Investment in an electrical system to reduce fire risk, Itagüi-Antioquia, Colombia

Food Division

- Wastewater fat removal, Raisio, Finland

COMPLIANCE WITH ENVIRONMENTAL LEGISLATION

Constructing an environmental management system entails compliance with all existing environmental legislation and administrative regulations. We are not aware of any infringements of environmental laws or permit conditions.

Because of the new Environmental Protection Act in Finland, which unifies the environmental permit process, several existing environmental permits must be renewed. Renewal of most of such permits held by the Raisio Group will be applied for in 2003.

The Raisio Group is not involved in any legal processes related to environmental permits or any other environmental matters.

Malting Division

- Installation of new ammonia vaporizers, reduction of occupational hazard and environmental risks, Raisio, Finland
- Installation of new frequency converters to save electricity, Raisio, Finland

Animal Feeds Division

- Air compressor converted from a water-cooled to an air-cooled system to save over 10,000 cubic meters of cooling water annually, Anjalankoski, Finland
- Modernization of formic acid storage tanks and the necessary bunds, Raisio, Finland
- Construction of new workbenches to improve industrial safety, Raisio, Finland

New investments required by permit conditions

No major investment needs are foreseeable that would be due to new legislation or stricter permit regulations. New permit conditions at the City of Raisio's municipal wastewater treatment plant, where pre-treated waste-water from the Raisio's production area is treated, require improved nitrogen removal. The municipality of Raisio is currently negotiating on wastewater treatment at the new wastewater treatment plant planned by the City of Turku. The possible cost implications for the Raisio Group are not yet clear.

There are no significant quantities of waste in storage and the company is under no obligation to clean any contaminated sites.

STAFF AND ENVIRONMENTAL AFFAIRS

The Raisio Group continued the program to secure the commitment of all personnel. A total of 207 training sessions were organized in 2000, attended by 1,859 members of staff.

The personnel made 42 suggestions for improvement related to environmental, health and safety issues.



RISK MANAGEMENT

The Raisio Group and Aon Finland Oy have concluded a cooperation agreement, under which Raisio and Aon Finland Oy will develop insurance risk management and related methods more extensively and comprehensively than before.

The new cooperation agreement will help the Raisio Group to benefit even better than before from the expertise of the international Aon group in risk management and insurance brokerage. The two companies' cooperation dates back to 1996, when Raisio chose Aon to handle its insurance matters.

The new cooperation agreement covers an extensive range of broker services required by the Raisio Group, from non-life insurance to life and pension insurance, and risk management services provided by the Aon Group for all domestic Raisio units and foreign subsidiaries.

COOPERATION WITH STAKEHOLDERS

A major training program for contract farmers was begun at the end of 1998 within the framework of the 'Quality Grain' project, and it still continues. This will be an even firmer guarantee that Finnish grain is a pure and traceable raw material produced by ecologically sustainable methods.

The key aim of the 'Quality Grain' project is to cut the use of fertilizers and pesticides and thereby reduce emissions and residues. In the contract conditions, for example, the use of pesticides on the grain is forbidden during the ripening stage before harvesting. Some 98% of grain grown under the 'Quality Grain' system is produced in line with EU environmental subsidy conditions.

Further training for those Raisio contract farmers who had attended 'Quality Grain' training sessions was organized by the Farma Rural Development Centre. The project was supplemented with two new projects, the 'Archipelago Sea' and the 'Raisio Rye Quality Grain' in cooperation with Kemira Agro. An essential topic was precision farming, where input can be optimized to achieve the best profit. The project introduced the use of aerial false-colour photography for monitoring the status of the plant stand.

A Raisio Group representative has been the chairman of the environmental policy group of the Confederation of Finnish Industry and Employers and member of project group in the project entitled "Industrial and Commercial Environmental Cooperation". The aim of the project is to develop new environmental procurement criteria and new product-specific environmental concepts that answer current customer needs.

The Group has participated in various Agenda activities both in the province of Varsinais-Suomi and in a 'people's forum' in the City of Raisio, and in an Archipelago Sea project coordinated by the Southwest Finland Regional Environment Centre.

The Raisio Group is a member of the Water Protection Association of Southwest Finland, and a representative of the Group was a member of the board of the Association in 2000. The Raisio Group is a contributing member of the Finnish Association for Nature Conservation.



CONTACTS

Group

Raisio Group plc
Maritta Punta
 Tel. +358 2 443 2424
 Email: maritta.punta@raisiogroup.com
 PO Box 101, FIN-21201 Raisio, Finland

Chemicals Division

Finland
Raisio Chemicals Ltd
Britta Sunde
 Tel. +358 2 443 2563
 Email: britta.sunde@raisiogroup.com
Annamari Heikkilä
 Tel. +358 2 443 2810
 Email: annamari.heikkila@raisiogroup.com
 PO Box 101, FIN-21201 Raisio, Finland

Europe
Raisio Belgium N.V.
Jan Stenlund
 Tel. +32 2 533 9452
 Email: jan.stenlund@raisiogroup.com
 Avenue Henri Jaspar 113
 B-1060 Brüssel, Belgium

Americas
Raisio Chemicals Canada Inc.
Denis Hird
 Tel. +1 905 331 0950
 Email: denis.hird@raisiogroup.com
 5515 North Service Road, 1st floor
 Burlington, Ontario L7L 6G4, Canada

Far East
PT Intercipta Kimia Pratama
Jesse Tsai
 Tel. +62 25 440 1921
 Email: ptikp01@indosat.net.id
 J.I. Raya Serang Km. 76
 Desa Kragilan/Sentul
 Serang 42184, Jawa Barat, Indonesia

Latexia
Latexia Suomi Oy
Mia Lindström
 Tel. +358 2 443 2871
 Email: mia.lindstrom@latexia.com
 PO Box 101, FIN-21201 Raisio, Finland

Food Division

Melia Ltd
Tuula Laukkanen
 Tel. +358 2 443 2735
 Email: tuula.laukkanen@raisiogroup.com
 PO Box 101, FIN-21201 Raisio, Finland

Raisio Group plc, Rasion Margariini
Mirkka Rajala
 Tel. +358 2 443 2744
 Email: mirkka.rajala@raisiogroup.com
 PO Box 101, FIN-21201 Raisio, Finland



Raisio Group plc, Food Processing Industry

Pertti Kurttila

Tel. +358 8 289 4210

Email: pertti.kurttila@raisiogroup.com

Kenttätie 13, FIN-86400 Vihanti, Finland

Carlshamn Mejeri AB

Bo Funeteg

Tel. +46 454 825 00

Email: bo.funeteg@raisiogroup.com

Västra Kajen

SE-374 82 Karlshamn, Sverige

Raisio Polska Foods Sp. z o.o.

Piotr Dobrowolski

Tel. +48 22 788 9171

Email: piotr.dobrowolski@it.com.pl

Ul. Jagodne 1

PL-05-480 Karczew, Poland

Benecol Division

Raisio Staest Ltd

Juha Holma

Tel. +358 2 443 2403

Email: juha.holma@raisiogroup.com

PO Box 101, FIN-21201 Raisio, Finland

Raisio Staest US Inc.

Andy Gresham

Tel. +999 1 843 873 3007 / 7104

Email: andy.gresham@raisiogroup.com

325 Deming Way

Summerville, SC 29483, U.S.A.

Animal Feeds Division

Raisio Feed Ltd

Risto Mattila

Tel. +358 2 443 2575

Email: risto.mattila@raisiogroup.com

PO Box 101, FIN-21201 Raisio, Finland

Malting Division

Raisio Group plc, Malting Division

Erja Kotaviita

Tel. +358 2 443 2677

Email: erja.kotaviita@raisiogroup.com

PO Box 101, FIN-21201 Raisio, Finland

VOCABULARY

CO₂, carbon dioxide

Main component of flue gas. Formed during combustion through oxidation of carbon in fuels.

COD_{cr}

Chemical oxygen demand (COD) describes how much oxygen is required for the chemical decomposition of slowly degrading organic compounds in wastewater.

EMAS system

Eco-management and Audit Scheme, a voluntary system of certification for industrial enterprises; corresponding specifications are also contained in the EU's Eco-Management and Audit Regulation.

Environment

Aims and principles on environmental protection which the company defines for itself.

Environmental management system

A management system for developing, implementing, auditing and maintaining environmental policy, comprising administrative structures, planning, responsibility, procedures, processes and resources.

Environmental policy

Aims and principles on environmental protection which the company defines for itself.

Hazardous waste

Waste that must be transported to a special treatment facility or disposal site especially designated for hazardous waste.

ISO 14001

Series of normative standards on environmental management disciplines developed by the International Standardisation Organisation.

Notification

Procedure of notifying new chemicals to the European Chemicals Bureau.

NO_x emissions

Emissions of nitrogen oxides

P

Total phosphorus

Responsible Care

Voluntary international programme in the chemicals industry, establishing normative codes of practice in environmental health, and safety affairs. All companies committed to the programme interpret its ten Guiding Principles from the specific perspective of their sector of business.

SO₂, sulphur dioxide

Gas produced through combustion of fuels containing sulphur.

VOC emissions

Emissions of volatile organic compounds





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P.O.BOX 101, FIN-21201 Raisio, Finland
tel +358 2 443 2111, fax +358 2 443 2315, www.raisiogroup.com