

Peat

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Peat is an accumulation of organic residues from the partial decomposition of plant debris under damp and anaerobic conditions. Raw peat is ligneous, fibrous and elastic. It has a pH of 2.8-4.0 and an ash content of 0.5-2.5%. Peat is found in bogs, swamps and marshes. Its main properties are its high water-retaining capacity, low density, high resistance to decomposition, low heat conductivity, and high porosity. It can hold up to 20 times its weight in liquids and gas. There are two principal types of peat: horticultural peat and fuel peat. Horticultural peat is characterized by low decomposition corresponding to a von Post value of H1-H5. It has a high fibre content, is light yellowish brown, and contains few colloid residues. Fuel peat is highly decomposed with a von Post value of H6-H10. It is blackish in colour and contains colloid residues.

The total area of peatlands in Canada is estimated at 111 328 000 ha, covering close to 12% of the country's land surface. Approximately 1.5% of Canada's peatlands has been used for agriculture, 0.8% for urban development, and 0.022% for forestry. Peat harvesting currently accounts for only 0.014% of that total area. In 1984, Agriculture Canada estimated Canadian peat resources at 3 004 996 million m³, a volume equivalent to 338 003 Mt of oven-dry peat.

Canada mainly produces sphagnum peat, which is used in horticulture and agriculture. It is harvested from May to September, primarily in the eastern and southeastern parts of the province of Quebec; in the eastern and northeastern parts of the province of New Brunswick; and in the western provinces (near Edmonton, Alberta; Carrot River, Saskatchewan; and Giroux and Elma, Manitoba). Some peat production is also carried out in the provinces of Nova Scotia, Prince Edward Island and Newfoundland.

CANADIAN STATISTICS

From data collected from Canadian peat industry producers, Natural Resources Canada (NRCan)

estimated 1994 peat production at 1 103 000 t (28 628 000 bales of 0.17 m³, each weighing an average of 38.58 kg or 85 lb). This estimate represents a 27.4% increase from the revised 1993 production of 872 603 t (22 426 112 bales of 0.17 m³). The data show significant increases for New Brunswick (from 281 142 t to 465 000 t, or 8 888 031 to 13 019 957 bales, a difference of +65%), Manitoba (+64%),¹ Newfoundland (+144%) and Saskatchewan (+34%). Alberta's production increased by 13%, and that of Nova Scotia and Prince Edward Island combined increased by 36%. The data also show a decrease in production of 21% for Quebec from 306 403 t to 253 000 t, or from 7 505 594 to 6 330 000 bales. As in 1993, no significant peat production was reported in British Columbia and Ontario in 1994. Ontario should, however, produce peat in 1995.

Again according to data collected from industry, peat shipments in 1994 were estimated at 952 000 t (24 400 000 bales) valued at \$138.6 million. This estimate represents increases of 5.6% in volume and 3.6% in value over the revised 1993 shipments. Shipments from New Brunswick and Quebec, the two major producing provinces, respectively accounted for 33% and 27% of total 1994 shipments. The balance of shipments originated largely from Alberta and Manitoba. These two provinces, which have an increasingly large market share, accounted for 33% of total 1994 shipments. Since very little peat is imported into Canada, the 1993 shipment and export data were used to calculate apparent Canadian consumption. In 1993, Canada consumed 18.6% of its total shipments, or about 168 015 t (4 326 000 bales). That tonnage is slightly lower than that of the previous five years, during which Canadian consumption averaged 192 000 t/y. In Atlantic Canada, shipments calculated from revised 1993 data and the 1994 estimate remained virtually the same, decreasing from 354 252 t (9 845 409 bales) to 353 694 t (9 820 840 bales). In western Canada, shipments increased considerably from 255 094 t (6 110 593 bales) to 345 000 t (8 218 000 bales), an increase of 35%. In Quebec, data provided by the provincial Department of Natural Resources show that total shipments for 1994 declined approximately 13%, from 292 096 t in 1993 to 253 000 t in 1994 (7 302 392 to 6 330 000 bales).

¹ Production figures are confidential for the provinces of Nova Scotia, Newfoundland, Alberta, Manitoba and Saskatchewan.

In January 1994, peat stocks, quantities of which are expressed in bales of 0.17 m³, were 4.264 million and 1.775 million bales in Quebec and New Brunswick respectively. When compared to the stock levels of January 1993, these stocks represent an increase of about 1.3 million bales in Quebec and a drop of 1.8 million bales in New Brunswick. At the end of June 1994, stocks reached 925 000 bales in Quebec and 500 000 bales in New Brunswick. These stock levels were higher than the 282 000 and 300 000 bales reported for Quebec and New Brunswick respectively at the same time in 1993. A reasonably good 1994 harvesting season in Quebec and a record one in New Brunswick helped replenish peat stocks, and they were expected to reach 3.8 million and 6 million bales respectively at the end of 1994.

Exports in 1993 increased 2.2% to 733 499 t valued at \$187 million. Unlike value at production, export value includes, by definition, the costs of packaging, handling and transportation of peat from the plant to the customs port. Canadian producers exported to 38 countries. The United States again was by far Canada's leading customer, accounting for 87.9% of total peat exports. According to data compiled in Canada, Japan ranked second with 10.5%, and 36 other countries accounted for the balance of 1.6%. Peat exports to the United States increased 1.2% over 1992, while those to Japan increased 7.8%. Exports to countries other than the United States and Japan continued to increase for the second consecutive year, rising from 8721 t to 11 309 t, or 30%. When peat exports for the first nine months of 1993 and 1994 are compared, a slight overall tonnage increase of 2.9%, or about 16 000 t, is observed.

Sales to the United States continued to increase for the sixth consecutive year, reaching 644 724 t in 1993. Central and Atlantic Canada were estimated to account for approximately two thirds of this total; western Canada accounted for one third.

With respect to Japan, data from Statistics Canada show that 77 466 t of peat were exported to Japan in 1993. Canadian peat exports to Japan originated primarily (70%) from Atlantic Canada, mainly from New Brunswick. Central and western Canada accounted for 18% and 12% respectively of 1993 peat exports to Japan. This distribution and the distribution of exports to the United States in the preceding paragraph are based on Statistics Canada data. However, the province of export is not always the same as the producing province.

In other markets, exports of peat to Europe more than doubled from 1992 to 1993, increasing from 334 t to 696 t. The Netherlands and Switzerland are the only European countries worth mentioning; the Netherlands imported 363 t of Canadian peat in 1993 and Switzerland imported 207 t. Within the Pacific Rim, the Canadian peat industry continued to increase its sales to Taiwan. These increased from 1803 t in 1992 to 2311 t in 1993. However, sales to

South Korea fell from 1283 t to 753 t over the same period. Overall, sales in Pacific Rim countries declined by 6% from 3727 t to 3507 t. The Canadian peat industry continued to be successful in Australia with sales of 4500 t, representing a 41% increase over 1992.

Small quantities of peat were again imported from the United States in 1993. According to Statistics Canada, peat valued at \$78 289 was imported mostly into New Brunswick and Ontario.

CANADIAN PRODUCTION – 1994 SEASON

In Canada, 75 operations harvested and/or processed sphagnum peat in 1994. NRCan's 1993 census shows that 1624 direct jobs were provided by the peat industry when calculated on an annual basis. (Data on employment in operations that mainly process peat into finished products are gathered by Statistics Canada and are not included in the above compilation; this industry sector probably represents an additional 100 to 200 jobs.)

In 1994, weather conditions were poor throughout Quebec during the harvesting season. On the south shore of the St. Lawrence River (Rivière-du-Loup/Rivière-Ouelle) where there are major peat producers, the start of the harvesting season was very rainy. Although the situation improved in July and August, peat bogs generally had little time to dry and only producers with large harvesting areas were able to meet their targets. In this part of Quebec, most of the harvesting was done towards the end of the season in September and October. The Lac-Saint-Jean region and the north shore of the St. Lawrence River had only two to three weeks of good weather at the start of the season. Saint-Paul and Les Escoumins experienced weather conditions similar to Rivière-du-Loup and Rivière-Ouelle. Overall, Quebec reached 75-80% of its production target.

In New Brunswick, contrary to the 1993 season, the 1994 peat harvest was exceptional. The province, which is one of the largest peat-producing provinces along with Quebec, had variable weather conditions at the start of the season in June, but subsequently experienced sunny weather, and harvesting went on every day until the end of the season. These weather conditions prevailed throughout eastern Canada, resulting in very good harvests in Prince Edward Island, Nova Scotia and Newfoundland.

Ontario has the new Lakeland Peat Moss (Ontario) Ltd. operation near Iroquois Falls, but weather conditions were bad. There the message was "wait until next year."

In western Canada, weather conditions led to a good harvest in Alberta and an excellent season in

Saskatchewan. In Manitoba, the season got off to an excellent start with sunny weather until late June. However, conditions deteriorated somewhat in July, August and September. Overall, the province had a fairly normal harvest, which was better than the 1993 harvest.

CANADIAN DEVELOPMENTS

For the first time in its history, the Canadian peat industry produced over 1 Mt of peat, or approximately 28.6 million bales of 0.17m³. This industry performance is largely attributable to the exceptional harvesting season experienced by New Brunswick in 1994.

The Canadian Sphagnum Peat Moss Association helped organize and promote the International Peat Conference which was held in Brussels in March 1994. Its involvement demonstrated that Canada is a major player in the world peat industry. It also showed that Canada works with the other peat-producing countries to ensure the sustainable development of the peat industry in Canada and other countries.

In 1994, standard-sized bags for bagging peat were introduced on the market by members of the Canadian Sphagnum Peat Moss Association. These bags help retailers reduce their handling costs and provide consumers with clear information about how to use peat and the quantity required for their projects.

Restoring peat bogs remains a major preoccupation of Canadian peat producers and governments. For example, in 1994, Quebec made a substantial financial contribution to Laval University for the pursuit of its research on restoration techniques. This three-year project is strongly supported by the industry, the Canadian Sphagnum Peat Moss Association, the *Association des Producteurs de Tourbe du Québec*, and the *Centre Québécois de la Valorisation de la Biomasse*. Experimental work is also continuing on an abandoned site in Maisonneuve, New Brunswick. The work is receiving support from one of Canada's largest peat producers, Sun Gro Horticulture Inc. This company works closely with the University of Alberta and has for several years supported research related to the restoration and reclamation of abandoned sites.

Sun Gro Horticulture Inc. continues to successfully promote an innovative concept for bagging peat and peat mixes. The concept goes under the trade name of "Bigshot" and was introduced by the company in late 1992.

Premier Tech and the Premier Research Centre continued their work on the development of a peat-based biofiltration system for wastewater treatment in residences that are not connected to a sewer system.

Premier expects to introduce the new system onto the market in 1995.

Les Produits Farfard Ltd. sold its peat bog in Saint-Ulric-de-Matane, Quebec, to Groupe Niroim's Tourbière ML Inc. The company continues to supply Johnson and Johnson Inc. with peat from its Saint-Marguerite operation, which is used in the manufacture of super-absorbent sanitary napkins.

Annapolis Valley Peat Moss Co. Ltd. of Nova Scotia rebuilt its bagging plant, which had suffered fire damage in January 1994.

Lamèque Quality Group Ltd. of New Brunswick, which also suffered fire damage to the inside of its plant in December 1993, installed new Canadian-made equipment.

Thériault and Hachey Peat Moss Ltd. of New Brunswick built a new bagging plant and modernized its existing facilities.

WORLD PRODUCTION

The U.S. Bureau of Mines (USBM) estimated world production of peat for 1994 to remain unchanged at 140 Mt (USBM Mineral Commodity Summaries, 1994). In its 1993 final report, the USBM notes that in 1993 the former Soviet Union (FSU) remained the largest producer of horticultural peat with a 95.2% share, followed by Germany (2.1%), Canada (0.7%), and the United States (0.5%). Fuel peat production continued to account for 15% of total world output and was mainly produced in the FSU (47%), Ireland (31%), and Finland (14%). Because of the vast spreads of peat around the world, the world's peat resources will remain almost unchanged at 1.9 trillion t, of which the FSU has about 770 billion t, Canada has 500 billion t, and the United States has 310 billion t.

United States

The USBM estimated U.S. peat production in 1994 to reach 660 000 t valued at US\$18 million f.o.b. plant. That tonnage represents a 7% increase over the revised 1993 production of 616 000 t. About 65 operations harvested and processed peat in 20 of the contiguous states and Alaska. Florida and Michigan again accounted for most of the production (approximately 62% by weight of the total peat produced). Geographically, approximately 38% of peat by weight came from the southeastern states, 50% from the Great Lakes region, and the remaining 12% from the midwestern, northeastern and western states. In 1993, 62% of total output by weight was reed-sedge peat. Humus peat accounted for 20%, sphagnum peat for 7%, hypnum moss for 6%, and the others for 5%.

From 1993 to 1994, the USBM estimates that U.S. apparent consumption remained almost unchanged at 1.3 Mt. Sphagnum peat imported almost entirely from Canada continued to account for almost 50% of U.S. consumption. In 1993, 15 operations produced sphagnum peat in the United States; this production amounted to about 41 000 t. This tonnage indicates an estimated domestic sphagnum peat consumption for 1993 of 685 000 t, or 2% more than 1992. Canada exported 644 724 t of sphagnum peat to the United States in 1993, a slight 1.2% increase over 1992. As in previous years, Canada accounted for almost all (99.5%) U.S. sphagnum peat imports. According to the USBM, imported sphagnum peat prices representing the average customs value are expected to reach US\$170 per short ton (st) in 1994, an increase of about US\$10/st over 1993.

U.S. domestic horticultural peat production is projected to grow at a rate of 2%/y, approaching 800 000 t/y by 1998; consumption during the same period is forecast to grow at 4%/y, reaching 1.6 Mt/y by 1998. The USBM forecasts that Canadian peat imports to the United States will then be at 880 000 t/y, or 55% of total U.S. peat demand. As reported last year, future demand in the United States, which is by far the Canadian peat industry's largest client, could be even greater if new uses for peat are developed. For several years, there has been considerable interest in using peat as a filtration medium; for the treatment of domestic, municipal and industrial effluent; for composting; for oil absorption; and for hygienic products. On the negative side, one needs to consider the increasing popularity of yard waste compost, which is taking a growing market share; the growing pressures of environmental regulation; and the possibility that economic growth will not be as strong as predicted. These three factors could have a negative impact on U.S. peat demand in the future.

Japan

In 1993, Japan remained the second largest importer of Canadian peat with imports of 77 466 t valued at \$19.2 million. These figures represent an increase of 7.8% in tonnage and 18.9% in value respectively over 1992. The unit value also rose \$23/t to \$248/t in 1993. According to Statistics Canada, 50 063 t of peat valued at \$14.3 million were exported to Japan during the first nine months of 1994, compared to 54 060 t valued at \$13.2 million during the same period in 1993. These figures show that in 1994 the tonnage of peat exported to Japan during the January-September period had decreased by 7.4% over 1993, while its corresponding value increased by 8.3%. For the January-September period in 1994, the volume of Canada's exports to Japan dropped almost 9000 t to 1990 levels. However, the value increased by \$0.9 million, or 6.7%, between the two years. The unit value continued to climb for the first nine months of 1994, reaching \$287/t, or almost \$40 more than the value recorded for 1993.

According to data obtained from the Canadian Embassy in Tokyo, Canada remained the major supplier of peat to Japan in 1993 with an 83% share of the market, followed by Germany (7.6%), Finland (2.3%), China (1.8%), the Netherlands (1.8%), and the United States (1.5%). For the second consecutive year, major differences were observed between statistics compiled by Japan and those published by Statistics Canada. For example, Japan reported Canadian peat imports of 86 169 t for 1993, while Canada reported exports to Japan of 77 466 t. For the first nine months of 1994, the discrepancy rose to 16 300 t. In view of this information, it is difficult, as the data in the above paragraph suggest, to conclude that Canadian peat sales to Japan have dropped. NRCan has asked Statistics Canada to examine this anomaly. If the data compiled by Japan prove to be accurate, Canada's exports for 1994 will probably approach 95 000 t.

In 1994, industrial landscaping remained the single largest outlet for peat in Japan (50%), followed by traditional usage for rice nursery bedding (20%), in greenhouses (20%), and for horticulture and golf courses (10%). For industrial uses, peat sales are handled by large buyers; distributors and wholesalers handle sales for other uses. Japan continues to import six-cubic-foot bales (0.17 m³) to serve its market.

According to statistics obtained from Japan, the Japanese market increased by 22% in 1993 over 1992. That significant increase pushed the Japanese peat market to 104 289 t. The Japanese peat market is expected to remain firm. Statistics from Japan show that 86 704 t of peat were imported during the first nine months of 1994. Although Japan will continue to rely heavily on Canada, with imports expected to reach almost 95 000 t in 1994, increases have been noted in Japanese imports from smaller suppliers. Germany in particular exported 7948 t of peat to Japan in 1993, compared to 7484 t in 1992. Similarly, Finnish exports to Japan increased from 1351 t in 1992 to 2381 t in 1993, and Chinese exports increased from 771 t to 1994 t over the same period.

The Canadian Embassy in Tokyo is still of the opinion that continuing promotions by Canadian exporters in association with counterpart Japanese importers could continue to generate interesting results. Accordingly, exchanges between the Canadian Sphagnum Peat Moss Association and the Japanese Peat Importers Association are being encouraged by the Embassy.

Finland

Finland, the third largest peat producer in the world after the former Soviet Union and Ireland, reports a 1994 overall peat production of 27 million m³. This volume represents an increase of 109% over the 1993 season and constitutes an historic record for Finland. Until now, Finland's best peat harvests had been

those of 1986 and 1992 with an annual volume of about 22 million m³. Finnish production of horticultural peat, which is far lower than its production of fuel peat, reached 2.1 million m³ in 1994. This represents an increase of 31% over the preceding year, based on data provided by Vapo Oy (a state-owned corporation which accounts for approximately 85% of total Finnish peat production).

The summer of 1994 was especially favourable for Finnish peat producers. The season had an uncertain start with a difficult May and June, but in July and for the rest of the season the sunny weather produced record production. Vapo Oy estimated fuel peat consumption to be 19.9 million m³ in 1994, an increase of 14.4% over 1993. It was not possible to obtain data on horticultural peat for 1994, but it is thought that it was probably between 1.5 and 2 million m³, if exported peat is included.

In 1994, the Haku method was by far the main harvesting method used, accounting for about 80% of the total harvest. An improved version known as Superhaku yielded impressive results last summer. This improved method resulted in a harvest of over 1000 m³/ha of peat compared with 560 m³/ha with the traditional Haku method.

Ireland

In Ireland, a 1993 season marked by frequent changes in weather conditions resulted in production of 3.5 Mt of milled peat. Despite a difficult season, Ireland managed to exceed the disastrous 1992 output of milled peat by 30%. Sales of 3.9 Mt of Irish milled peat for the 1993/94 season represented a drop of about 10% below the average of the last six years. The state-owned corporation, Bord na Mona, which accounted for 95% of Irish milled peat production, was satisfied with its success in meeting 84% of its target despite the poor weather. According to the company, its performance was principally due to new production methods and improved work practices which yielded greater productivity despite the poor weather. Bord na Mona also produced 1.45 million m³ of horticultural peat and 391 000 t of peat briquettes in 1993/94. These figures represent increases of 14% and 5% respectively over the 1992/93 season. The production of horticultural peat by Bord na Mona represented 63% of Ireland's total production in 1990/91. In that year, 85% of the horticultural peat produced by Ireland was exported.

Bord na Mona is building major export facilities in the Dublin harbour, which will be in use as of 1995. These facilities should substantially increase the company's logistical capacity to export horticultural peat. However, the company is aware that the costs of shipping by sea place its horticultural division at a disadvantage in markets other than Ireland's.

USES

Peat has many applications because of its wide range of physical and chemical properties. It is used in its natural state in agriculture and horticulture to condition clay soils, to maintain moisture in sandy soils, and to add organic matter and fertilizers to depleted soils. Peat is also used as a horse, cattle and poultry litter to absorb liquids and odours. Peat is used in the production of artificial mixtures such as potting soil, seed carriers, peat-perlite and peat-vermiculite mixtures, fertilizers and compost. It is also used in the production of peat pots for sprouting plants.

Peat has several industrial applications. It can be used in the production of paper towels, chemical products, metallurgical coke and active carbons. Peat is also used to treat industrial and domestic effluents. Its cellular structure, absorbing properties and high capacity for ionic exchange form the basis for its use as a natural filter. Peat can reduce the acidity of drainage from old mines and remove iron oxides from waste and drainage water. Peat has also been used as an oil spill absorbent and in certain medical applications.

Fuel peat is recognized as an alternate source of energy. This form of biomass is widely used as fuel in several European countries such as Ireland, Finland and the Commonwealth of Independent States. Fuel peat has a high degree of humification, a high bulk density, a high calorific value, a low ash content, and a low percentage of pollutants such as sulphur and mercury. Canadian peat possesses a calorific value of about 4700-5100 kcal/kg. In comparison, the value for coal is 4800-5800 kcal/kg, and for oil, 9900-10 000 kcal/kg. Fuel peat is fired in furnaces to produce the steam needed to drive turbines, which in turn generate electricity. It can also be processed to produce coke, synthetic natural gas, and methanol.

OUTLOOK

Canadian peat exporters need to maintain close contact with Japanese importers. As the Canadian Embassy in Tokyo suggested last year, exchanges between the Canadian Sphagnum Peat Association and the Japanese Peat Moss Importers Association should be considered in order to further promote Canadian peat-based products.

The success of the Canadian peat industry in acquiring an 85% share of the Japanese market is a model upon which efforts can be extended to other Asian countries and Australia. For example, Canadian peat exports to Australia have increased rapidly in the past few years, reaching 4500 t in 1993. Preliminary export data show that sales should exceed 6000 t in 1994.

Growth opportunities still lie in new applications, such as the use of peat to manufacture extra-thin super-absorbent sanitary napkins. The potential for utilizing peat in the treatment of domestic and industrial effluents also remains. Experimental work presently carried out in Canada in these areas may lead to the development of new peat markets.

The development and manufacture of field and plant equipment is continuing to progress rapidly in Canada. Our vast experience in peat harvesting and processing is contributing to the design of equipment

that will keep operating costs at a competitive level. New engineering products that can be used to handle large volumes of peat or other fibrous materials are currently being marketed worldwide. This area continues to represent an interesting diversification and market opportunity for the Canadian peat industry.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 60. (2) Information in this review was current as of February 1, 1995.

PRICES¹ IN THE UNITED STATES, BY TYPE OF PEAT, 1993

| Type | Domestic | | | Imported ² |
|------------------------------|----------|-------------------|---------|-----------------------|
| | Bulk | Packaged or Bales | Average | Total |
| (U.S. dollars per short ton) | | | | |
| Sphagnum moss | 19.09 | 93.55 | 48.04 | 165.62 |
| Hypnum moss | 21.83 | 60.89 | 34.77 | n.a. |
| Reed-Sedge | 20.26 | 29.37 | 25.32 | n.a. |
| Humus | 18.15 | 40.90 | 19.73 | n.a. |

Source: U.S. Bureau of Mines, "Peat," 1992.

n.a. Not applicable.

¹ Prices are f.o.b. plant. ² Average customs values.

TARIFFS

| Item No. | Description | Canada | | | United States |
|----------|--|--------|------|------|---------------|
| | | MFN | GPT | USA | Canada |
| 2703.00 | Peat (including peat litter) whether or not agglomerated | 9.5% | 6.5% | Free | Free |
| 6815.20 | Articles of peat | 6.3% | 4.5% | 2.0% | Free |

Sources: Customs Tariff, effective January 1995, Revenue Canada; Harmonized Tariff Schedule of the United States, 1995.

TABLE 1. WORLD PRODUCTION OF PEAT, BY COUNTRY, 1989-93

| Country | 1989 | 1990 | 1991 | 1992 | 1993 ^p |
|----------------------------------|-----------------|------------------|-----------------|-----------------|-------------------|
| (000 tonnes) | | | | | |
| AGRICULTURAL USE | | | | | |
| Former Soviet Union ^e | 163 260 | 149 655 | 140 600 | 119 800 | 113 500 |
| Germany, Republic of | 2 840 | 3 000 | 2 880 | 2 900 | 2 500 |
| Canada | 812 | 715 | 856 | 740 | 873 |
| United States | 690 | 690 | 632 | 600 | 616 |
| Netherlands ^e | 300 | 300 | 300 | 300 | 300 |
| Ireland | 265 | 230 | 248 | 300 | 300 |
| Finland | 450 | 325 | 220 | 355 | 252 |
| Sweden | 230 | 255 | 260 | 260 | 250 |
| France ^e | 200 | 200 | 200 | 200 | 200 |
| Poland ^e | 50 ^r | 50 ^r | 50 ^r | 50 ^r | 50 |
| Denmark | 50 | 110 ^r | 100 | 100 | 190 |
| Spain | 75 | 70 | 70 | 70 | 70 |
| Hungary ^e | 70 | 70 | 60 | 60 | 65 |
| Norway | 30 | 30 | 30 | 30 | 30 |
| Other | 55 | 55 | 55 | 55 | 25 |
| Subtotal | 169 377 | 155 792 | 146 571 | 125 820 | 119 178 |
| FUEL USE | | | | | |
| Former Soviet Union ^e | 16 800 | 14 965 | 10 000 | 9 100 | 10 000 |
| Ireland ^r | 7 760 | 6 400 | 4 800 | 6 200 | 6 500 |
| Finland ^r | 4 600 | 4 500 | 2 300 | 5 100 | 3 035 |
| Sweden | 1 400 | 1 400 | 1 400 | 1 400 | 1 400 |
| West Germany ^r | 232 | 232 | 230 | 210 | 175 |
| Subtotal | 30 792 | 27 497 | 18 730 | 22 010 | 21 110 |
| Total world | 200 169 | 183 289 | 165 301 | 147 830 | 140 288 |

Sources: Natural Resources Canada; U.S. Bureau of Mines, "Peat," 1993.
^e Estimated; ^p Preliminary; ^r Revised.

TABLE 2. CANADA, PEAT SHIPMENTS BY PROVINCE, 1992-94

| Province | 1992 | | 1993 | | 1994 ^p | |
|----------------------|----------|---------|----------|---------|-------------------|---------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| | (000 t) | (\$000) | (000 t) | (\$000) | (000 t) | (\$000) |
| Newfoundland | 5 | 725 | 3 | 537 | 3 | 531 |
| Prince Edward Island | — | — | — | — | — | — |
| Nova Scotia | x | x | x | x | x | x |
| New Brunswick | 323 | 38 053 | 317 | 39 783 | 314 | 40 525 |
| Quebec | 271 | 36 944 | 292 | 43 495 | 253 | 41 197 |
| Ontario | — | — | x | x | — | — |
| Manitoba | x | x | x | x | x | x |
| Saskatchewan | x | x | x | x | x | x |
| Alberta | 94 | 20 500 | 129 | 28 248 | x | x |
| British Columbia | — | — | — | — | — | — |
| Total | 828 | 116 869 | 902 | 133 823 | 952 | 138 641 |

Sources: Natural Resources Canada; Statistics Canada.

— Nil; ^p Preliminary; x Confidential.

Note: Numbers may not add to totals due to rounding.

TABLE 3. CANADIAN DOMESTIC EXPORTS OF PEAT, BY COUNTRY, 1990-94

| Country | 1990 | | 1991 | | 1992 | | 1993 | | 1994 ^p | |
|-----------------------------|---------|---------|---------|---------|----------------------|----------------------|---------|---------|-------------------|---------|
| | Tonnage | Value | Tonnage | Value | Tonnage | Value | Tonnage | Value | Tonnage | Value |
| | (\$000) | | (\$000) | | (\$000) | | (\$000) | | (\$000) | |
| American Samoa | - | - | - | - | - | - | 36 | 8 | - | - |
| Anguilla | 18 | 3 | - | - | - | - | - | - | - | - |
| Argentina | - | - | - | - | - | - | 15 | 28 | 19 | 53 |
| Australia | 1 464 | 366 | 2 490 | 445 | 3 188 | 700 | 4 500 | 987 | 3 720 | 808 |
| Barbados | 15 | 6 | 38 | 28 | 15 | 7 | 23 | 18 | 43 | 35 |
| Belgium | 179 | 33 | 57 | 19 | 28 | 10 | - | - | 4 | 9 |
| Belize | - | - | - | - | - | - | 55 | 48 | - | - |
| Bermuda | 20 | 7 | 31 | 7 | 47 | 8 | 17 | 6 | 8 | 2 |
| Brazil | - | - | - | - | - | - | 60 | 70 | 60 | 118 |
| British Virgin Islands | - | - | - | - | - | - | 6 | 2 | - | - |
| Chile | - | - | 36 | 4 | 4 | 10 | 11 | 22 | 633 | 118 |
| China, People's Republic of | 90 | 20 | 16 | 6 | 54 | 23 | 50 | 19 | 49 | 19 |
| Colombia | - | - | - | - | - | - | 36 | 7 | 222 | 58 |
| Cuba | - | - | - | - | - | - | - | - | 80 | 36 |
| Denmark | 129 | 385 | 68 | 154 | - | - | 85 | 194 | 65 | 167 |
| Dominican Republic | 54 | 10 | - | - | 107 | 100 | 9 | 4 | 81 | 24 |
| Ecuador | - | - | - | - | 15 | 17 | 48 | 32 | 47 | 53 |
| Egypt | - | - | - | - | 44 | 14 | - | - | - | - |
| France | 117 | 50 | 8 | 10 | - | - | 15 | 3 | - | - |
| Germany | 7 | 11 | 23 | 32 | 7 | 22 | 18 | 38 | 4 | 13 |
| Guam | - | - | - | - | - | - | - | - | 14 | 8 |
| Guatemala | - | - | - | - | - | - | - | - | 25 | 5 |
| Haiti | 135 | 143 | 22 | 13 | - | - | - | - | - | - |
| Hong Kong | 37 | 19 | 96 | 28 | 102 | 33 | 328 | 179 | 136 | 61 |
| Iceland | 9 | 2 | 9 | 2 | 9 | 2 | 9 | 2 | - | - |
| India | - | - | - | - | - | - | - | - | 23 | 3 |
| Indonesia | - | - | - | - | 114 | 179 | 4 | 5 | 27 | 52 |
| Ireland | - | - | 18 | 2 | - | - | - | - | - | - |
| Israel | 475 | 87 | 134 | 35 | 28 | 5 | 91 | 21 | - | - |
| Italy | 250 | 26 | - | - | - | - | - | - | - | - |
| Jamaica | - | - | - | - | - | - | 239 | 46 | - | - |
| Japan | 65 765 | 16 522 | 66 196 | 14 654 | 71 980 ^r | 16 211 ^r | 77 554 | 19 234 | 77 894 | 22 115 |
| Jordan | 199 | 84 | 148 | 73 | 65 | 48 | - | - | - | - |
| Korea, North | - | - | - | - | 96 | 21 | - | - | 80 | 20 |
| Korea, South | 1 051 | 202 | 594 | 160 | 1 283 | 261 | 753 | 312 | 755 | 314 |
| Kuwait | - | - | - | - | 57 | 20 | 263 | 78 | - | - |
| Lebanon | - | - | 3 | 4 | - | - | - | - | - | - |
| Malaysia | - | - | 219 | 38 | 313 | 57 | 13 | 5 | 57 | 13 |
| Mauritius | - | - | - | - | - | - | - | - | 48 | 6 |
| Mexico | 36 | 15 | 215 | 61 | 76 | 39 | 60 | 9 | 34 | 13 |
| Netherlands | 719 | 140 | 247 | 48 | 255 ^r | 76 ^r | 363 | 80 | 126 | 29 |
| Netherlands Antilles | - | - | - | - | - | - | - | - | 60 | 32 |
| Nigeria | - | - | - | - | 24 | 11 | - | - | - | - |
| Panama | - | - | - | - | - | - | - | - | 47 | 4 |
| Philippines | - | - | - | - | - | - | - | - | 76 | 13 |
| St. Pierre and Miquelon | 1 | . . . | - | - | 31 | 7 | 69 | 6 | - | - |
| Saudi Arabia | 41 | 11 | - | - | - | - | 580 | 295 | 826 | 335 |
| Singapore | 12 | 1 | 539 | 100 | 16 | 3 | 39 | 11 | 19 | 11 |
| South Africa | 2 300 | 607 | 1 382 | 323 | 883 | 190 | 945 | 195 | 606 | 166 |
| Spain | 4 | 6 | - | - | 16 | 27 | 8 | 2 | - | - |
| Sri Lanka | - | - | - | - | - | - | - | - | 14 | 24 |
| Switzerland | 7 | 13 | - | - | 16 | 40 | 207 | 41 | 64 | 89 |
| Taiwan | 424 | 206 | 783 | 331 | 1 823 ^r | 862 ^r | 2 326 | 944 | 1 042 | 362 |
| Thailand | - | - | 23 | 4 | - | - | - | - | - | - |
| Trinidad and Tobago | 82 | 61 | 46 | 15 | 22 | 20 | 17 | 12 | 35 | 25 |
| United Kingdom | 79 | 41 | 8 | 17 | 15 | 5 | 17 | 47 | 34 | 36 |
| United States | 542 431 | 110 816 | 576 675 | 119 505 | 637 051 ^r | 144 510 ^r | 644 724 | 164 236 | 665 263 | 185 618 |
| U.S. Outlying Islands | - | - | - | - | - | - | - | - | 16 | 4 |
| Uruguay | 8 | 4 | - | - | - | - | - | - | - | - |
| Venezuela | - | - | - | - | - | - | - | - | 88 | 47 |
| Vietnam | - | - | - | - | - | - | 9 | 8 | - | - |
| Total | 616 158 | 129 914 | 650 124 | 136 132 | 717 784 ^r | 163 551 ^r | 733 602 | 187 273 | 752 444 | 210 938 |

Sources: Natural Resources Canada; Statistics Canada.

- Nil; . . . Amount too small to be expressed; ^p Preliminary; ^r Revised.

Note: Numbers may not add to totals due to rounding.