



BRIEFING

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Mustard Seed

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Background

Mustard, *Brassica* spp., is an annual, cool season crop a native to temperate regions of Europe and allegedly one of the first domesticated crops. Mustard has been grown as an herb in Asia, North Africa, and Europe for thousands of years. It has been a specialty crop in North America since World War II interrupted supplies from Western Europe.

Mustard seed is a relative to canola that has a short growing season and is typically grown in rotation with small grains. It is tolerant to drought, heat, and frost. Mustard is best adapted to fertile and well-drained soils.

There are three types of mustard: yellow, brown, and oriental. Yellow mustard, also called white mustard in Europe, is the most common mustard

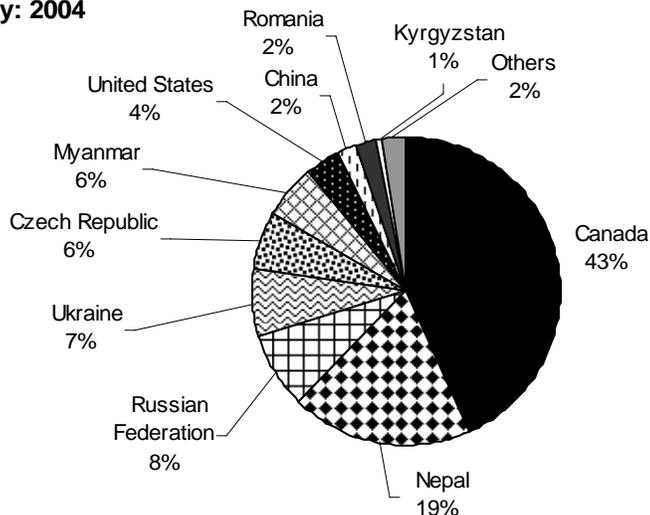
variety planted in North America, comprising about 90 percent of total U.S. mustard acreage and production. Brown and oriental mustard varieties are grown on limited acres and have lower seed yields than yellow mustard.

Production

World¹: In 2004, world production of mustard seed was about 703,738 metric tons. Mustard seed is produced in over 21 different countries. Canada is the world's leading producer of mustard seed. Canada, Nepal, and the Russian Federation typically combine to produce nearly 70 percent of total world mustard seed production (Figure 1).

¹ Data on world production of mustard seed were obtained from the FAOSTAT database of the Food and Agriculture Organization of the United Nations, which is compiled on a calendar year-basis. Marketing year and crop year information may yield somewhat different numerical results.

Figure 1: Percentage of World Mustard Seed Production by Country: 2004



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Table 1: World Mustard Seed Production, Historical

Year	Production in Metric Tons
1993	463,505
1994	534,993
1995	477,249
1996	452,031
1997	518,456
1998	556,625
1999	601,689
2000	471,047
2001	374,172
2002	510,564
2003	691,737
2004	703,738

World mustard seed production has fluctuated between 450,000 metric tons and 700,000 metric tons throughout the 1990s and 2000s. Production of mustard seed worldwide hit a low of 374,172 metric tons in 2001, but has recently increased to a high of 703,738 metric tons in 2004 (Table 1).

United States: The United States accounted for only about four percent of world mustard seed production in 2004. In the United States, total acreage planted to mustard seed has increased substantially over the last 12 years. The area planted to mustard seed in the United States was only 18,100 acres in 1993 increased to a record-high acreage of 191,000 in

Table 2: United States Mustard Seed Production, Acreage and Production

Year	Acreage		Production		
	Planted (000)	Harvested (000)	Yield (lbs)/acre	Total (000) Pounds	Metric Tons
1993	18.10	16.40	755	12,382	5,616
1994	13.60	13.40	970	12,998	5,896
1995	22.90	22.00	832	18,304	8,303
1996	19.00	18.60	785	14,601	6,623
1997	76.30	74.70	793	59,273	26,866
1998	98.90	95.60	855	81,750	37,082
1999	60.80	58.80	816	48,010	21,777
2000	46.30	43.20	855	36,930	16,751
2001	45.80	44.20	930	41,106	18,646
2002	191.00	175.00	655	114,590	51,978
2003	110.00	107.00	723	77,372	35,096
2004	73.00	68.70	819	56,290	25,533

2002. Recently the area planted has declined to 73,000 acres in 2004 (Table 2). Under the FACT Act, mustard became eligible for marketing assistance loans in the 1991 crop year. Production of mustard seed has followed a similar trend to planted acres over the last 12 years with production reaching a peak of about 52,000 metric tons in 2002 and recently declining to just over 25,000 metric tons in 2004.

Montana: Montana has accounted for about 15 percent of total United States mustard seed production in recent years. Montana mustard seed production reached a peak of 8,097 metric tons in 1999 but declined in 2000 to 3,175 metric tons and was 3,620 metric tons in 2004. The area planted to mustard seed was a record

high of 27,000 acres in 2002 but has since dropped to 11,500 acres in 2004 (Table 3).

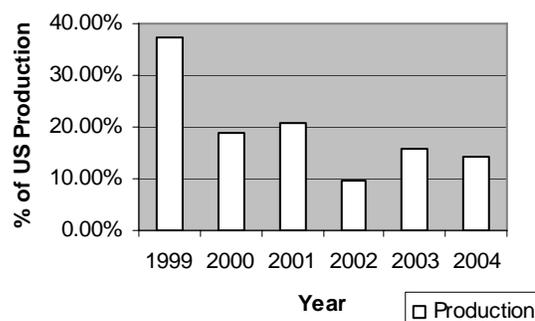
Montana's share of total United States mustard seed production was about 37 percent in 1999, but dropped significantly in 2000, primarily due to drought-impacted yields, and was approximately 15 percent in 2004 (Figure 2).

Domestic Competition: In addition to farmers in other countries, producers of mustard seed in Montana must compete with other states for the United States mustard seed market. United States mustard seed acreage and production is not reported by state each year.

Table 3: Montana Mustard Seed Production, Historical Production

Year	Acreage		Production		
	Planted (000)	Harvested (000)	Yield (lbs.)/acre	Total (000) Pounds	Metric Tons
1999	22	21	850	17,850	8,097
2000	12	10	700	7,000	3,175
2001	11	10	850	8,500	3,856
2002	27	25	440	11,000	4,990
2003	21	20	610	12,322	5,589
2004	11.5	11.4	700	7,980.00	3,620

Figure 2: Montana's Share of United States Total Mustard Seed Production



Consumption

Ancient Greeks and Romans used mustard as a paste and powder. Around 1300 AD, the name “mustard” was given to the condiment that was made by mixing mustum, which is the Latin word for unfermented grape juice, with ground mustard seeds. Today, more than 700 million pounds of mustard are consumed worldwide each year.

Yellow mustard is typically used for prepared or “table” mustard, which is a condiment, and also as dry mustard. Dry mustard is used as a seasoning in mayonnaise, salad dressings, and sauces. Yellow mustard is also used to make flour that is used as an emulsifying agent and stabilizer for the production of sausages. The oil content of yellow mustard seed is around 27 percent.

Brown mustard seed has oil content of about 36 percent and is primarily ground into flour which is used to produce “hot” table mustard. Oriental mustard is about 39 percent oil and is often used to produce spicy cooking oils.

Imports

In recent years, about 40 percent of the world’s production of mustard seed has been traded internationally. Around 275,000 metric tons of the world’s production was traded in international markets in the 2003 crop year.

In the 2003 crop year, the top three importing countries for mustard seed were Bangladesh, the United States, and Germany (Table 4). Collectively, these three countries account for around 56 percent of world mustard seed imports. The remaining imports are spread among many different countries, with over 97 countries reporting imports of mustard seed in 2003. The United States is a relatively large importer of mustard seed, with about a 19 percent share of total world mustard seed imports (Figure 3).

Exports

The United States is a minor exporter of mustard seed. The United States exported 5,266 metric tons of mustard seed in 2003, accounting for approximately 20 percent of total United States production and two percent of world mustard exports (Table 5).

Canada is the world’s leading mustard seed exporter. Canada, the Russian Federation, and the Ukraine accounted for approximately 69 percent of the world’s mustard seed exports in 2003 (Figure 4).

Summary

World mustard seed production was nearly 703,738 metric tons in 2004. About 40 percent of world production is traded in international markets annually.

The United States accounts for about four percent of world mustard seed production but only about two percent of world exports. The United States imported about 48,574 metric tons of mustard seed in 2003.

In recent years, Montana accounted for about 15 percent of total U.S. mustard seed production. Mustard seed yields and total production decreased in Montana in recent years, likely due to prolonged drought.

Table 4: Major World Mustard Seed Importing Countries, 2003

<i>Country</i>	<i>World Rank</i>	<i>Metric Tons</i>
Bangladesh	1	54,085
United States	2	48,574
Germany	3	41,900
France	4	30,289
Netherlands	5	14,373
Belgium	6	10,784
Nepal	7	8,805
Japan	8	7,788
Austria	9	4,848
Canada	10	3,303
Others		36,542
World Total		261,381

Table 5: Major World Mustard Seed Exporting Countries, 2003

<i>Country</i>	<i>World Rank</i>	<i>Metric Tons</i>
Canada	1	122,317
Russian Federation	2	41,640
Ukraine	3	38,583
Czech Republic	4	24,448
Germany	5	14,110
Netherlands	6	13,001
India	7	10,313
Hungary	8	8,551
United States	9	5,266
Belgium	10	3,697
Others		11,946
World Total		293,872

Figure 3: Percent of United States Safflower Planted Acreage by State: 2004

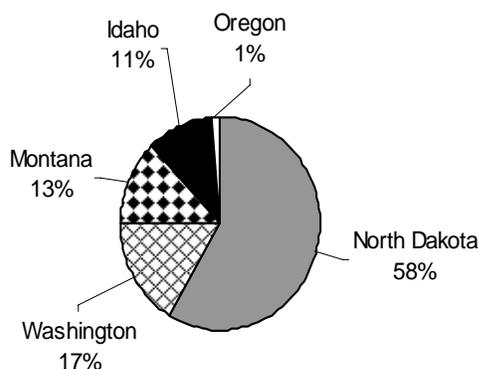
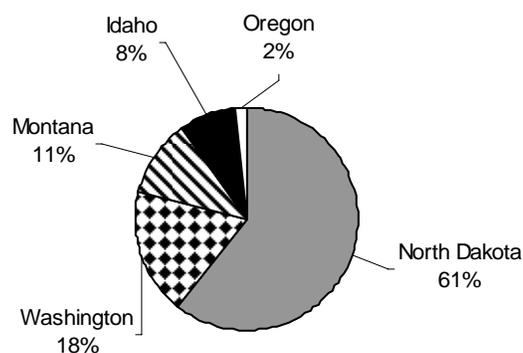


Figure 4: Percent of United States Safflower Production by State: 2004



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