

# World Forage, Turf and Legume Seed Markets

Last edited March 8, 2005

## Overview:

World trade of forage grass seed, turf grass seed and legume seed revolves around 5 major players. The USA is by far the largest producer and exporter of grass and legume seed in the world. This is followed by the EU15 as a whole, then Canada. New Zealand follows. The only other nations of significance are Argentina and the Czech Republic, which has now joined the EU 25.

**Table 1: World Grass and Legume Seed Production**

### World Grass Seed, Turf Seed and Legume Seed Production (MT)-2003

	USA	EU15	Canada	NZ	Argentina*	Czech
<b>TOTAL GRASSES</b>	<b>376,550</b>	<b>116,136</b>	<b>34,473</b>	<b>25,540</b>	<b>6,040</b>	<b>4,593</b>
<b>TOTAL LEGUMES</b>	<b>42,350</b>	<b>33,402</b>	<b>14,042</b>	<b>4,260</b>	<b>1,529</b>	<b>1,163</b>
<b>Total Grass/Legumes</b>	<b>418,900</b>	<b>149,538</b>	<b>48,515</b>	<b>29,800</b>	<b>7,569</b>	<b>5,756</b>

Source: International Seed Federation (ISF), Foreign Ag Services-USDA (FAS), Stats Canada  
Canada= exports only, Argentina = certified seed production only.

Worldwide, the international Seed Federation (ISF) shows the vast majority of grass seed produced is the ryegrasses, almost split equally between perennial and annual varieties. Tall fescues and the red fescues make up the next most widely produced grass seed crops. The turf grass species Kentucky bluegrass holds down 5<sup>th</sup> spot, followed by the production of orchard grass (cocksfoot) and bent grass respectively. The commonly grown Canadian forage grasses, timothy and brome grass, are 8<sup>th</sup> and 9<sup>th</sup> most widely produced grass seed on the world scale. Total world grass and legume seed production (major countries) in 2003 is estimated to be over 780,000 MT's. Despite such huge production numbers, world trade in grass seed is at 25% of production. Much of what is produced is consumed within the various production regions, especially by the USA and within the EU.

**Table 2: Estimated World Grass Seed Production - 2003 (MT)**

<b>Estimated World Grass Seed Production - 2003 (MT)</b>			
<b>- major countries (using ISF, Stats Canada, FAS data)</b>			
	MT's		MT's
<b>Ryegrass, Perennial</b>	<b>185,352</b>	<b>Ryegrass-hybrid</b>	<b>7,270</b>
<b>Ryegrass, Annual</b>	<b>171,849</b>	<b>Brome grass</b>	<b>6,000</b>
<b>Tall Fescue</b>	<b>123,869</b>	<b>Sheep's Fescue</b>	<b>4,949</b>
<b>Red Fescue</b>	<b>80,000</b>	<b>Meadow Fescue</b>	<b>4,864</b>
<b>KBG</b>	<b>42,361</b>	<b>Bentgrass</b>	<b>4,757</b>
<b>Orchard grass</b>	<b>15,093</b>	<b>other</b>	<b>20,000</b>
<b>Timothy</b>	<b>13,000</b>	<b>Total Grasses (est.)</b>	<b>679,364</b>

Source: ISF, Stats Canada, FAS

Total world legume seed production is small compared to the grasses. Legume seed production only accounts for 12% of world grass and legume seed production. However, it is no surprise that the “Queen” of the legumes, alfalfa, comes in as the most widely grown legume in the world. Common vetch, then the clovers, (especially red clover and white clover), follow alfalfa.

**Table 3: World Legume Seed Production (MT) major countries**

	<b>MT's</b>
<b>Alfalfa</b>	<b>47,416</b>
<b>Common vetch</b>	<b>16,197</b>
<b>Red Clover</b>	<b>10,614</b>
<b>White Clover</b>	<b>15,019</b>
<b>Various</b>	<b>2,500</b>
<b>Egyptian clover</b>	<b>2,150</b>
<b>Crimson clover</b>	<b>1,683</b>
<b>Total Legumes</b>	<b>97,853</b>

Source: ISF

## World Production Regions

### 1) USA

The USA, by far, grows the majority of the world’s grass and legume seed. Oregon, the US’s primary forage grass producing state, produces more grass and legume seed than the rest of the world (2003 = 420,000 MT). The USA 2002 census shows production of all grass and legume seed crops at 458,660 MT. US Exports for their 2002 crop shows that 112,000 MT of that year’s crop was exported worldwide. The majority of their production is used domestically.



**Willamette Valley, Oregon USA**

American legume exports, consisting primarily of alfalfa seed, totaled 13,000 MT’s in 2003, (alfalfa seed exports = 11,173 MT). This is followed by clover exports of 1,870 MT’s. With alfalfa and clover acres down in recent years, exports of these legumes have fallen. Legume imports to the US of clover and alfalfa seed has remained steady at 9000 MT annually for the past 5 years (split 50:50 between alfalfa and clovers).

Grass seed exports by American companies are dominated by turf grass seed species. Until last crop year (2003/04), perennial ryegrass, annual ryegrass, and Kentucky bluegrass seed all were exported in amounts over 6,000 MT annually. Tall fescue has averaged over 6,000 MT exported annually, but this past crop year (03/04), over 10,000

MT has already been exported. Turf and forage grass seed exports have averaged 36,000 MT annually. However, USA exports are up an astounding 33% this year, with large increases in tall fescue and annual ryegrass sales (the drop in the USA dollar compared to other world currencies has made American seed less expensive on the world marketplace). Countries buying tall fescue this past year include: China, Canada, Argentina and the EU25.

**Table 4: US Turf, Grass and Legume Seed Exports 2000 – 2004 (YTD)**

<b>USA Grass/Legume Seed Exports</b>	<b>Quantity (MT) July-June</b>				
<b>Legumes</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>Alfalfa</b>	15,148	12,943	10,879	11,173	16,452
<b>Clovers</b>	2,028	2,162	179	1,870	2,988
<b>Birdsfoot Trefoil</b>	89	14	50	30	30
<b>Total Legumes</b>	<b>17,265</b>	<b>15,119</b>	<b>11,108</b>	<b>13,073</b>	<b>19,470</b>
<b>Turf &amp; Forage Grasses</b>					
<b>Bentgrass</b>	1,931	2,009	1,246	1,154	1,345
<b>Fescue, Tall</b>	5,553	4,390	6,431	6,768	10,184
<b>Fescues, other</b>	3,207	1,832	2,337	3,903	5,581
<b>KBG</b>	6,266	7,153	6,478	6,606	6,686
<b>Ryegrass, Perennial</b>	7,996	6,754	6,363	16,584	27,377
<b>Ryegrass, Annual</b>	7,428	6,977	8,308	10,582	7,527
<b>Timothy</b>	994	1,539	1,842	2,159	2,311
<b>Wheatgrasses</b>	318	598	169	120	2,846
<b>Total Turf &amp; Forage Grasses</b>	<b>33,693</b>	<b>31,252</b>	<b>33,174</b>	<b>47,876</b>	<b>63,857</b>
<b>Warm Season Grasses/mixes</b>					
<b>Bermudagrass</b>	1,374	2,965	2,631	2,825	2,287
<b>Sudangrass</b>	4,257	2,517	4,051	6,462	4,823
<b>Other grass/forage seed</b>	16,663	19,108	19,258	22,718	25,424
<b>Total</b>	<b>73,252</b>	<b>70,961</b>	<b>70,222</b>	<b>92,954</b>	<b>115,861</b>

Source: FAS

## 2) European Union

The EU has been increasing their production area steadily since the early 80's. From just over 100,000 ha of grass/legume seed production in 1980, EU15 hectares were at 180,000 in 2003. However, with the new country additions to form the EU25, European Union acres for 2004 reached over 230,000 hectares.

**Table 5: EU Production Area (Ha) – 1982-2004**

<b>EU Grass seed area, ha.</b>										<b>Average</b>
	<b>1982</b>	<b>1985</b>	<b>1988</b>	<b>1991</b>	<b>1994</b>	<b>1997</b>	<b>2000</b>	<b>2003</b>	<b>2004</b>	<b>95-04</b>
<b>Belgium</b>	1,182	1,029	1,775	1,581	1,644	3,641	3,610	3,293	3,687	3,310
<b>Germany</b>	9,226	9,271	11,282	49,955	27,234	34,059	29,309	27,472	33,380	30,500
<b>France</b>	10,242	16,968	15,919	17,759	13,454	17,791	21,565	18,197	23,150	19,467
<b>Italy</b>	16	20	13	668	1,665	2,666	2,215	2,863	3,303	2,725
<b>Neth.</b>	23,737	15,843	26,794	27,161	18,771	25,494	22,256	21,220	25,946	22,756
<b>U.K.</b>	13,418	13,028	16,269	14,083	9,579	10,953	7,001	6,386	6,287	8,239
<b>Denmark</b>	43,494	41,726	58,978	49,315	51,439	61,608	74,330	79,443	85,129	71,564
<b>Spain</b>			1,431	2,426	590	2,918	2,501	3,763	4,475	2,893
<b>Sweden</b>						6,316	6,856	8,932	9,556	7,290
<b>Finland</b>						5,990	7,013	8,965	7,691	7,146
<b>Czech Rep.</b>									15,262	
<b>Hungary</b>									3,663	
<b>Poland</b>									10,107	
<b>Slovakia</b>									1,559	
<b>Total</b>	<b>102,205</b>	<b>98,271</b>	<b>133,181</b>	<b>163,570</b>	<b>125,150</b>	<b>172,838</b>	<b>177,764</b>	<b>181,563</b>	<b>237,206</b>	<b>180,396</b>

Source: Danish Seed Council

The main European countries producing grass/legume seeds are Denmark, followed by Germany, the Netherlands, and France. French production is focused on legume seed and the ryegrasses. The other major EU nation involved with legume seed production is Italy.

But by far, the EU nation with the most influence in world forage and turf seed markets is Denmark. Almost half of Europe's grass and legume seed production is grown in Denmark. Of her production, the majority of seed is perennial ryegrass and red fescue. Germany and the Netherlands are also known for their production of perennial and annual ryegrass.

**Table 6: Danish Grass and Legume Seed Production**

<b>DANISH PRODUCTION OF GRASS AND CLOVER SEED (MT)</b>					<b>Average</b>
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>94'-03'</b>
<b>Clover, Red</b>	355	86	107	130	228
<b>Clover, White</b>	1,389	1,825	1,311	1,621	1,553
<b>Clover, Alsike</b>	1	0	0	2	1
<b>Black Medic</b>	182	1	3	59	74
<b>Total Legumes</b>	<b>1,927</b>	<b>1,912</b>	<b>1,421</b>	<b>1,812</b>	<b>1,856</b>
<b>Ryegrass, Perennial - A</b>	17,798	16,608	x	x	x
<b>Ryegrass, Perennial - B</b>	13,606	14,053	x	x	x
<b>Ryegrass, Perennial - C</b>	11	70	x	x	x
<b>Total Perennial Ryegrass</b>	<b>31,415</b>	<b>30,731</b>	<b>27,490</b>	<b>41,042</b>	<b>34,527</b>
<b>Italian Ryegrass</b>	3,864	2,694	1,909	2,882	3,883
<b>Hybird Ryegrass</b>	1,144	466	262	794	979
<b>Timothy</b>	367	329	401	527	337
<b>Timothy (turf)</b>	21	7	3	7	6
<b>Orchardgrass</b>	3,560	2,898	2,889	4,274	2,607
<b>Meadow Fescue</b>	1,427	1,448	846	784	1,271
<b>Creeping Red Fescue</b>	33,007	34,977	17,259	24,481	22,660
<b>Sheeps Fescue</b>	1,795	1,676	973	692	940
<b>Tall Fescue</b>	2,088	2,798	2,622	4,207	1,411
<b>Italian Rye X Meadow Fescue</b>	200	212	82	96	
<b>Bentgrass</b>	87	77	80	90	44
<b>Smooth Broome</b>	34	0	0	0	
<b>Bluegrass-rust stock</b>	314	342	296	238	333
<b>Bluegrass-Kentucky Blue</b>	6,318	8,212	8,709	8,194	7,463
<b>Grasses total</b>	<b>85,641</b>	<b>86,867</b>	<b>63,821</b>	<b>88,308</b>	<b>76,531</b>
<b>Grand total</b>	<b>87,568</b>	<b>88,779</b>	<b>65,242</b>	<b>90,120</b>	<b>78,386</b>

Source: Danish Seed Council.

Despite the huge amount of grass and legume seed the EU produces annually, the EU does not export huge quantities of seed outside their own union. EU trade in grass/legume seed within the EU totaled over 140,000 MT's in 2003, with only 37,000 MT of seed traded outside of the EU. This though, should not be surprising. The USA, with annual production over 450,000 MT, only exported 25% of their production. If one considers the EU as one entity, then only 20% of their grass/legume seed production hits the world market. Much of EU exports ends up in the USA to fill grass seed needs there.

Of the forage grasses, EU15 Timothy seed production is small, with less than 2,500 MT produced in 2003. Likewise, Canadian exports of timothy in 2003 reached 5,500 MT, with US exports at 2,160 MT. However, with the Czech Republic now part of the EU25,

timothy production has increased. Bromegrass production is basically non-existent. However, orchard grass (cocksfoot) is grown in abundance, 5,400 MT. The USA only produced a 1,000 MT crop in 2003. Data does not distinguish between tall fescue forage and turf varieties.

The Czech Republic will be part of the EU 25, and with it, they will bring in their grass and legume seed production. The Czech Republic presently has significant production of annual ryegrass, fescues, timothy and red clover. 2004 Eurostat data shows increased exports of timothy (2,046 MT) and red clover (2,894 MT) from 2003.

**Table 7: EU Production of Various Grass/Legume Species, Selected Countries (5 year average – MT)**

<b>EU Grass and Legume Seed Production (5 year average 1998-2003)</b>								
	<b>Belgium</b>	<b>Czech</b>	<b>Germany</b>	<b>Denmark</b>	<b>France</b>	<b>Italy</b>	<b>Neth.</b>	<b>UK</b>
<b>Grasses</b>								
<b>Rye, Perennial</b>	837	577	7,573	34,373	8,226	135	18,900	6,396
<b>Rye, Annual</b>	1,486	2,462	8,061	4,093	4,462	5,550	4,700	967
<b>Rye-hybrid</b>	14	27	180	1,179	1,218	40	160	819
<b>Fescue, Tall</b>		62	149	1,838	3,236	111	1,500	3
<b>Fescue, Red</b>	41	565	1,991	26,786	3,180	2	2,400	218
<b>Fescue, Sheep's</b>		28	805	1,230	254		130	2
<b>Fescue, Meadow</b>		843	1,900	1,057			60	4
<b>Orchard grass</b>		131	47	2,731	2,332	52		118
<b>Kentucky Bluegrass</b>	27	86	164	6,877	7		2,200	
<b>Bromegrass</b>		3			294			
<b>Timothy</b>		364	1,237	294	1		15	66
<b>False Oatgrass</b>		25	142					
<b>Total Grasses</b>	<b>2,405</b>	<b>5,173</b>	<b>22,249</b>	<b>80,458</b>	<b>23,210</b>	<b>5,890</b>	<b>30,065</b>	<b>8,593</b>
<b>Legumes</b>								
<b>Clover, Red</b>		1,077	323	228	2,058	98		12
<b>Clover, White</b>		23	47	1,498	38	7		7
<b>Clover, Crimson</b>		157	44		432	1,050		
<b>Clover, Egyptian</b>						2,150		
<b>Alfalfa</b>		212	6		5,786	4,750		0
<b>Vetch, common</b>	116	60	205		10,496	4,200		120
<b>Total Legumes</b>	<b>116</b>	<b>1,529</b>	<b>625</b>	<b>1,726</b>	<b>18,810</b>	<b>12,255</b>	<b>0</b>	<b>139</b>

Source: ISF

### 3) Canada

Canadian grass and legume seed production is centered in the Prairie Provinces, with the Peace River region of Alberta and BC a prime producing region for cool season forage and turf seed crops. The majority of Canada's exports are turf grass seed, mainly creeping red fescue seed grown in the Peace River Region. Annual exports of creeping red fescue averages 20,000 MT. However, ryegrass exports have increased since the 90's. Timothy seed remains the other major grass (forage) seed exported, as Canada remains the number one exporter of timothy seed world-wide (6,700 MT annually. USA = 3,200 MT, Germany = 1,200 MT). Swedish production has increased, and is nearing the 1000 MT range.

Alfalfa seed exports dominate the legume trade, with over 20 million lbs (9000 MT) of alfalfa seed exported in 2001, 2002 and 2003. With clover seed acres and production on the decline, exports have dropped to less than 4000 MT in 2003.

**Table 8: Canadian Turf and Forage Seed Exports**

<b>Canada - Total Turf and Forage Seed Exports</b>					
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Alfalfa, total</b>	<b>8,040</b>	<b>7,018</b>	<b>9,534</b>	<b>12,345</b>	<b>10,056</b>
<b>Clovers, total</b>	<b>4,626</b>	<b>4,200</b>	<b>4,443</b>	<b>4,501</b>	<b>3,987</b>
<b>Total Legumes</b>	<b>12,666</b>	<b>11,217</b>	<b>13,978</b>	<b>16,846</b>	<b>14,043</b>
<b>Fescues, total</b>	<b>20,911</b>	<b>18,708</b>	<b>20,767</b>	<b>19,465</b>	<b>21,112</b>
<b>Ryegrasses, total</b>	<b>2,454</b>	<b>4,273</b>	<b>5,883</b>	<b>4,215</b>	<b>4,396</b>
<b>Timothy, total</b>	<b>6,936</b>	<b>7,011</b>	<b>6,487</b>	<b>7,713</b>	<b>5,543</b>
<b>Grasses, other</b>	<b>3,018</b>	<b>3,099</b>	<b>2,190</b>	<b>2,422</b>	<b>2,153</b>
<b>Seeds of forage plants, NES</b>	<b>1,279</b>	<b>995</b>	<b>2,148</b>	<b>991</b>	<b>1,270</b>
<b>Total Grasses</b>	<b>34,599</b>	<b>34,086</b>	<b>37,474</b>	<b>34,805</b>	<b>34,474</b>
<b>Total Grass &amp; Legume Seed</b>	<b>47,265</b>	<b>45,304</b>	<b>51,452</b>	<b>51,651</b>	<b>48,516</b>

Source: Stats Canada

Canadian turf and forage seed exports have been in the 50,000 MT range for the past few years. However, as an individual country, Denmark has moved into 2<sup>nd</sup> place worldwide as a supplier of grass and legume seed, with exports of 80,000 to 90,000 MT annually. Although the majority of Denmark's exports are within the EU, the majority of Canadian exports are to the USA (03/04 exports of 36,950 MT to the USA, out of total exports of 51,430 MT, or 71.8%).

#### 4) **New Zealand**

Although New Zealand is a relatively small country, it can produce grass and legume seed in abundance. 2003 saw New Zealand produce close to 30,000 MT of seed. Although most know of New Zealand's ability to grow white clover (4000 MT in 2003), it is becoming a major grower of rye grass, growing perennial ryegrass (12,000 MT), annual ryegrass (4000 MT) and hybrid ryegrass (2000 MT) in 2003. New Zealand and the USA lead the world in white clover seed production, both producing approximately 4000 MT annually.



**Tall Fescue field on the Canterbury plains, New Zealand: Photo courtesy of Jay Burr, Scotts Seeds.**

The majority of New Zealand's ryegrass production is traded to Australia and the USA. (2,500 MT each), while her white clover seed is shipped throughout the world (major buyers: Netherlands, UK, USA, China, Germany, Australia, Japan).

## 5) Argentina

Argentina is not recognized as a major trader in the turf, forage grass and legume seed trade, but does have yearly seed production numbers of over 11,000 MT annually (certified production, figures unavailable for common seed). Argentina annually grows 1000 MT of certified perennial ryegrass, annual ryegrass, tall fescue, and orchard grass, and 3,600 MT's of bromegrass seed. Alfalfa seed production is also prevalent, with 1500 MT of certified seed produced yearly. However, with Argentina's agricultural land expansion, they have become a major importer of grass and legume seed. US data shows US grass and legume seed exports to Argentina growing from 4,700 MT in 2000 to over 8,800 MT in 2003/04. The majority of Argentinean imports are the ryegrasses (372 MT), fescues (1,600 MT), clovers (1,200 MT), and alfalfa seed (4,000 MT).

**Table 9: Argentine Forage Seed Trade Balance**

Argentine Forage Seed Trade (MT)						
	Exports			Imports		
	2001	2002	2003	2001	2002	2003
<b>Alfalfa</b>	18.5	80.5	163.9	6,766.8	3,264.8	4,016.2
<b>Ryegrass</b>				36.4	337.4	372.3
<b>Clover</b>	193.1	253.3	112.8	1,108.6	333.8	1,190.6
<b>Fescue</b>	20.1	156.1	0.0	156.5	28.8	1,594.6
<b>Kentucky Bluegrass</b>				21.2	0.7	2.5
	<b>231.59</b>	<b>489.91</b>	<b>276.71</b>	<b>8,089.48</b>	<b>3,965.52</b>	<b>7,176.11</b>

Source: USDA FAS Report

## 6) Australia

Australian production of grass and legume seed focuses on the legumes. Total acres of Australian production (common + certified) are not available, but Tables 10 and 11 show certified seed production down under.

Table 10				Table 11			
Australia: Certified Grass Seed Area (Ha)				Australia: Certified Grass Seed Production (MT)			
	01/02	02/03	03/04		01/02	02/03	03/04
<b>Total Alfalfa</b>	19,206	10,459	13,643	<b>Total Alfalfa</b>	7,496	4,275	5,804
<b>Total Canarygrass</b>	1,330	56	217	<b>Total Canarygrass</b>	600	12	95
<b>Total Clovers</b>	2,268	1,982	3,131	<b>Total Clovers</b>	1,088	838	1,527
<b>Total Cocksfoot</b>	120	111	110	<b>Total Cocksfoot</b>	41	35	42
<b>Total Fescue</b>	20	20	0	<b>Total Fescue</b>	7	5	0
<b>Total Medic</b>	260	96	785	<b>Total Medic</b>	167	17	360
<b>Total Vetch</b>	331	278	456	<b>Total Vetch</b>	343	259	306
<b>Proprietary cultivars- other species</b>	553	1,029	995	<b>Proprietary cultivars- other species</b>	244	393	661
<b>Foreign Multiplications</b>	1,509	2,365	3,027	<b>Foreign Multiplications</b>	495	785	1,191
<b>Total Forage Seed</b>	<b>25,600</b>	<b>16,396</b>	<b>22,314</b>	<b>Total Forage Seed</b>	<b>10,483</b>	<b>6,619</b>	<b>9,952</b>

Source: Seed Services Australia, Australian crop year = Oct-Sept.



Total certified grass and legume seed acres averaged 21,000 over the past 3 years, with over half of this acreage dedicated to alfalfa seed production. Aussie certified alfalfa seed production has averaged 14,000 hectares the past 3 years. Australian alfalfa seed yields average around the 400 lb/ac mark. Certified clover seed production covers a wide range of clover species, with subterranean clover leading the way with over 1900 ha of production. White clover hectares are close to 600. There is little certified fescue (tall) seed production, unless it is for foreign multiplications during our winter (Aussie summer). One note, import data from other countries shows Australian imports of grass/legume seed into the USA, EU and China to be on the increase, going from 3060 MT (01-02) to 4,990 (02-03) to 7,087 MT in 03-04. Some of this seed into the USA and Europe is quite possibly winter multiplication stock.

## Summary

A few players now dominate our world's turf, forage grass, and legume seed production, with the majority of trade being turf grasses (perennial ryegrass, annual ryegrass, tall fescue turf varieties, Kentucky bluegrass, and the fine leaved fescue's). With the European Union expanding to 25 nations, lands in the newer community members may switch to grass/legume seed production. Direct subsidies to grass species in the EU have been taken off, but now the market place will play a major role in European growers decisions to grow grass/legumes seeds. This change to "Farm Based" subsidies will no longer be applied directly to a particular crop. Instead, EU growers will be growing the most profitable crop for their situation, be it grains, oilseeds, or grass/legume seed.

The marketplace has also changed. No longer do end-users obtain supply in advance. Buyers have moved to a "hand-to-mouth" approach. Obtaining supply month's in advance is becoming the exception. This has forced growers to hold onto their production longer, thus becoming the storage component of the marketing wheel. Improvements in transportation have also allowed end users to wait before placing orders. These marketplace changes will force growers into more timely decisions. In the grass/legume seed business, growers must decide quickly when and which crop to grow , which may also

mean quicker movement of growers into, and out of, grass seed production.



Creeping red fescue seed production, Peace River Region of Alberta

Technological advances have also allowed for the expansion of grass and legume seed production in new regions. Harvesting (larger equipment available to take advantage of short harvest windows) and the use of drying equipment (aeration and heat dryers)

have seed production expansion in the US mid-west/northern states, Europe and in Canada.

With world population on the increase and the demand for higher quality foodstuffs and living conditions, turf, forage grass and legume seeds will continue to play a major role in agriculture. The USA will continue to be the leader in this field. However, with production of various grass/legume seed crops isolated throughout the world, production will be required everywhere, to ensure a good supply of quality seed every year.

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Last Updated March 9, 2005