

# Plant Varieties

## Highlights

### *Applications above 15,000 in 2013—Grants hover around 10,000*

In 2013, 15,200 plant variety applications were filed worldwide, up 6.3% from 2012, considerably more than in the previous year and due mainly to increased filings at the European Union's (EU) Community Plant Variety Office (CPVO) and in the offices of Ukraine and the United States of America (US) under the Plant Patent Act (figure 18).<sup>1</sup> Filings remained around 10,000 between 1995 and 2000 before trending upwards with considerable year-to-year variation.

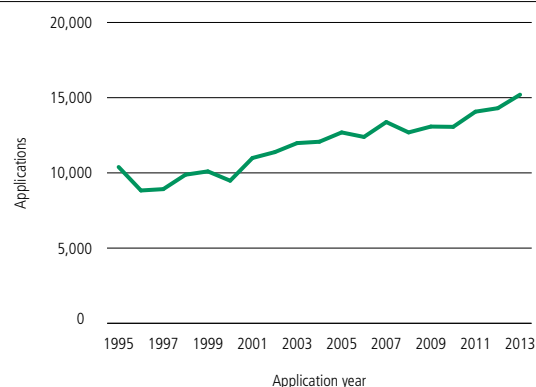
### *Europe accounted for bulk of total plant variety applications*

The CPVO received 3,296 applications in 2013, followed by the offices in Ukraine, China and the US under the Plant Patent Act (figure 19). Combining applications received under the two acts in the US would rank the country second. Both China and Ukraine received similar numbers of applications, but their combined total is less than that of the CPVO. The top five offices increased their combined share of applications worldwide from around 43% in 1995 to 58% in 2013. Offices from both middle- and high-income countries and from all six geographical regions are among the top 20. And all BRICS countries (Brazil, the Russian Federation, India, China and South Africa), except India, are in the top 20. Only four national offices from the EU are among the top 20 due to frequent use of its regional office—CPVO.

The majority of applications were filed in high-income countries, which received 64.6% of filings in 2013, even after substantial declines (figure 20). Upper middle-income countries accounted for 22.6%, with an upward trend driven mainly by China.

Among the top 20 offices, three—in the upper middle-income countries of Mexico, Peru and Turkey—saw considerable growth in applications received. In Peru

**Figure 18. Plant variety applications worldwide**



Source: Standard figure D1.

and Turkey, growth in resident applications was mainly responsible for the overall growth. In contrast, growth in applications from the Netherlands and the US was the main contributor to overall growth in applications filed in Mexico. Decreases in both resident and non-resident filings led to double-digit declines for Canada and the Russian Federation.

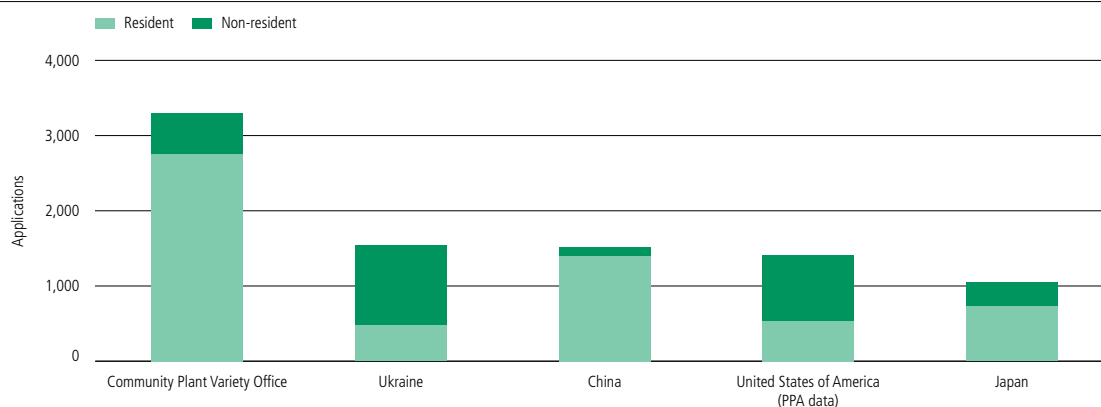
Despite a 4 percentage point drop, Europe accounted for the largest share (46.9%) of global applications in 2013, due largely to the CPVO's receiving two-fifths of all applications (figure 21). Over the past decade, Africa, Asia, and Latin America & the Caribbean saw gradual increases in their respective shares, while Europe, North America and Oceania saw gradual declines.

Resident filings constitute the bulk of total filings (around 64%), with their share remaining stable over time. In middle- and high-income countries, resident applicants have accounted for the majority of filings. But non-resident applicants have accounted for the largest shares in low-income countries.

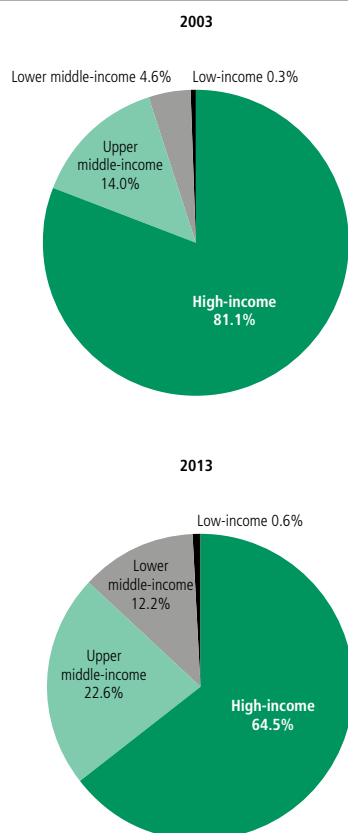
### *The Netherlands is the largest origin of plant variety applications*

Applications received by offices from resident and non-resident applicants are referred to as office data, whereas applications filed by applicants at a national

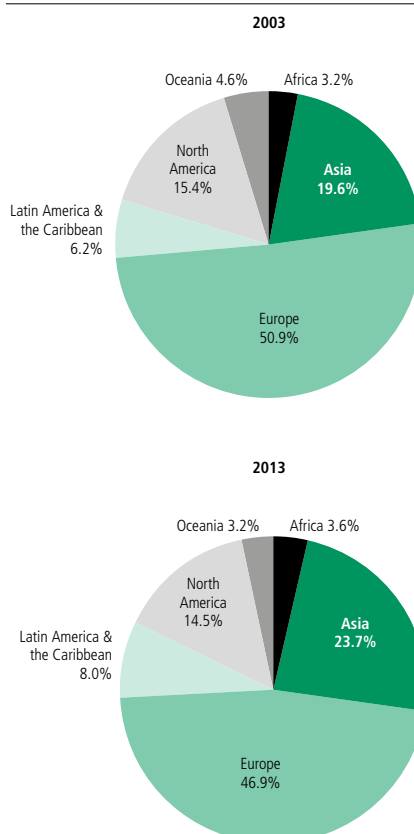
<sup>1</sup> The US has two acts for protecting new plant varieties: the Patent Plant Act and the Plant Variety Protection Act.

**Figure 19. Plant variety applications for the top five offices, 2013**

Source: Standard figure D5.

**Figure 20. Plant variety applications by income group**

Source: Standard table D3.

**Figure 21. Plant variety applications by region**

Source: Standard table D4.

### Equivalent counts

Origin data are compiled using two different counting methods—absolute counts and equivalent counts. The difference between the two lies in the treatment of regional office (CPVO) data. For absolute counts, an application received by the CPVO is counted only once. For the equivalent count, a single application filed at the CPVO is equivalent to multiple applications. To calculate the number of equivalent applications at the CPVO in 2013, each application is multiplied by the corresponding number of member states. If the applicant resided in one of the 28 EU member states in 2013, the application was counted as one resident filing and 27 filings abroad. If the applicant did not reside in an EU member state in 2013, the application was counted as 28 filings abroad.

office (resident applications) or at foreign offices (applications abroad) are referred to as origin data. Here, statistics based on the origin of the residence of the first-named applicant are reported to complement the picture of plant variety filings worldwide.

Equivalent counts show that plant variety applications originate mainly from applications filed by residents of France, Germany and the Netherlands (map 4). Applicants from Australia, China, Japan and the US also have high levels of filing activity. As expected, applicants from the EU filed more applications due to their frequent use of the regional office—CPVO. In 2013, 7 of the top 10 origins for equivalent plant variety applications were EU member countries—the other three were Japan, Switzerland and the US.

Moving to absolute counts, applicants from the Netherlands filed the largest number of applications in 2013, followed by those from the US, China, Germany and France. The top 20 origins encompass both middle- and high-income countries. Resident applications accounted for a small share of the total of EU origins, but for a majority of non-EU origins. Applicants from Denmark and Italy filed almost all their applications with other offices—including the CPVO—rather than with their national offices.

The majority of the top 20 origins filed more applications in 2013 than in 2012. Among the top five origins, Germany (+18.3%), the Netherlands (+14.9%) and the US (+2.6%) saw growth, while China (–2.2%) and France (–7.2%) had declines.

### *Titles issued remained stable*

The total number of plant variety titles issued has remained stable since the mid-2000s—hovering around 10,000. Following two consecutive declines, the number of titles issued worldwide rose 2.5% in 2013 but remained below the 2010 peak.

Titles issued by the US under the Plant Variety Protection Act shot up in 2013—from fewer than 300 in 2012 to more than 1,000 in 2013. In contrast, the Netherlands and Ukraine saw the largest decreases in titles issued between 2012 and 2013. In all of the top 10 offices, except the US under the Plant Patent Act, the bulk of plant variety titles were issued to domestic applicants, while foreign applicants accounted for the largest share of total titles issued at all offices ranked 11<sup>th</sup> to 20<sup>th</sup>, except Australia.

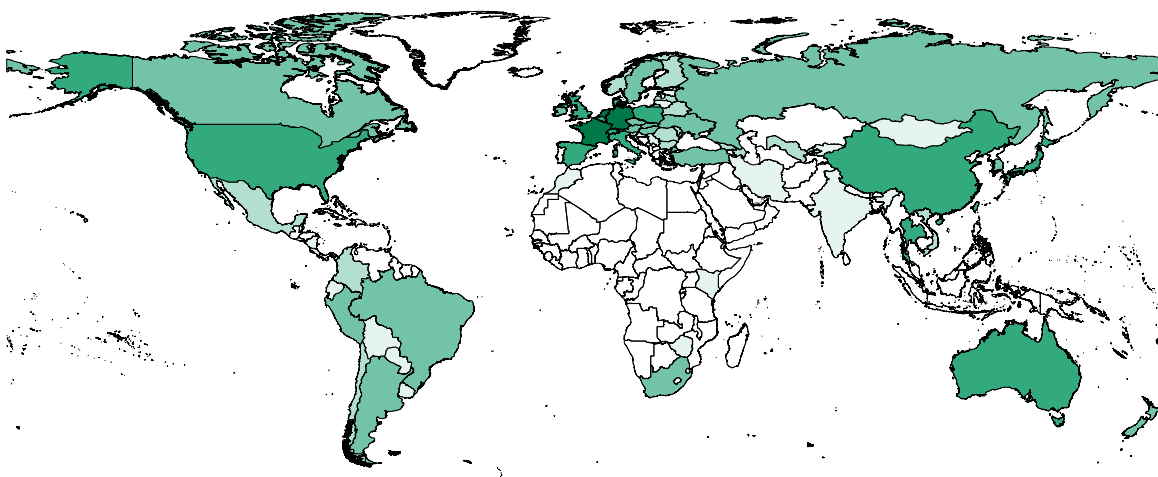
### *More than 100,000 varieties in force*

For the first time, 2013 saw the total number of plant varieties in force exceed 100,000. The CPVO and the US (both Acts) each accounted for around 20% of varieties in force, as they have been issuing the largest numbers of titles since the mid-1990s. Japan and the Netherlands also had sizable numbers in force.

The CPVO and the US accounted for around 70% of growth in total plant varieties in force worldwide in 2013. The majority of the top 20 offices had more in force in 2013 than in 2012. Mexico (+19.7%) and the US under the Plant Variety Protection Act (+18.2%) recorded double-digit growth. In contrast, France (–13.6%) and Italy (–10.2%) saw substantial decreases.

**Map 4. Equivalent plant variety applications by origin**

1–9 10–99 100–999 1,000–9,999 10,000–35,000 No data



Source: Standard map D9.

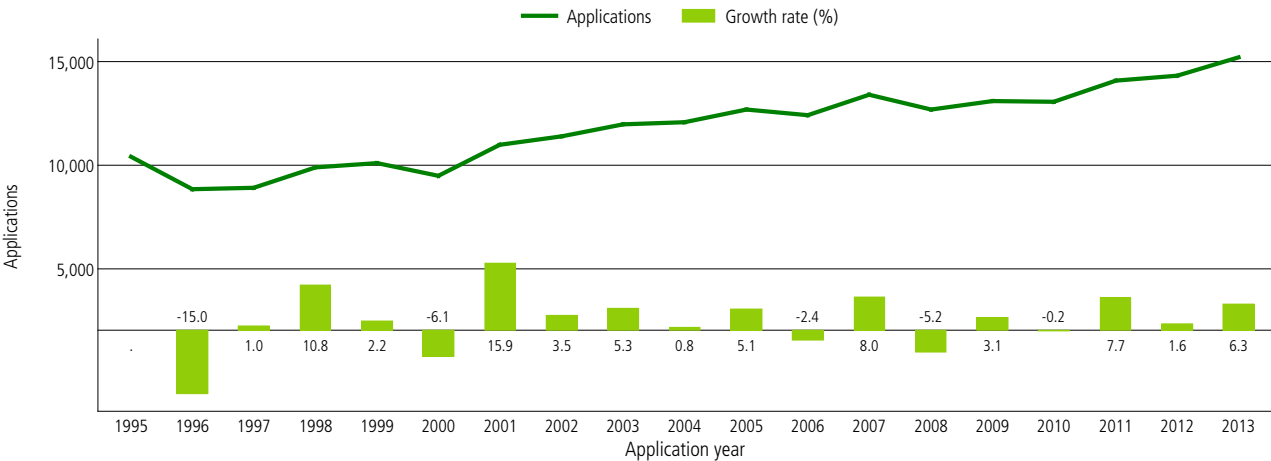


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# Plant variety applications and titles issued worldwide

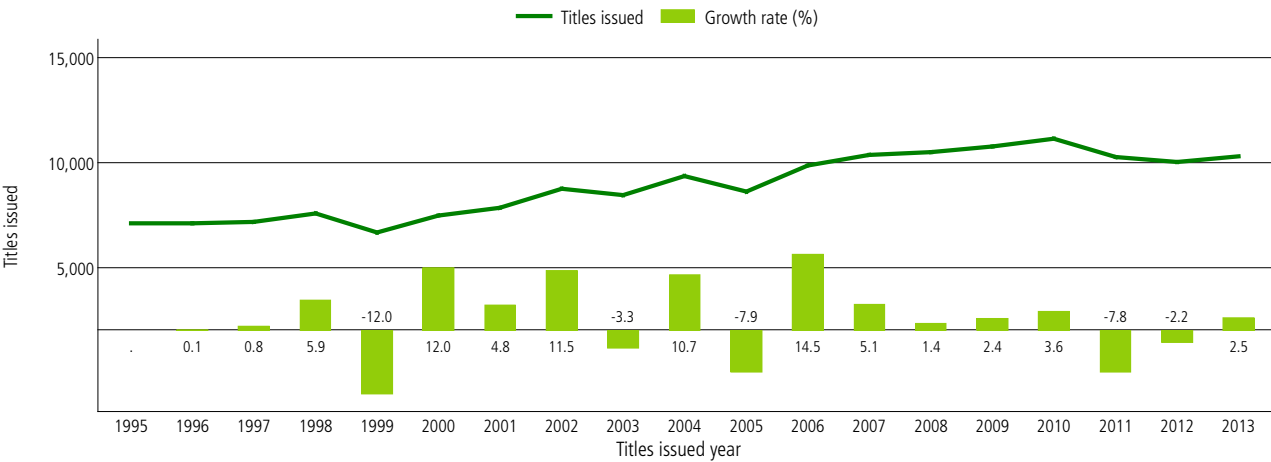
D1 Trend in plant variety applications worldwide



Note: WIPO estimates cover 67 offices.

Source: WIPO statistics database, October 2014.

D2 Trend in plant variety titles issued worldwide



Note: WIPO estimates cover 67 offices.

Source: WIPO statistics database, October 2014.



## Plant variety applications and titles issued by office

### D3 Plant variety applications by income group

	Number of applications		Resident share (%)		Share of world total (%)		Average growth (%)
	2003	2013	2003	2013	2003	2013	2003-13
<b>World Total</b>	<b>11,980</b>	<b>15,200</b>	<b>64.1</b>	<b>64.3</b>	<b>100.0</b>	<b>100.0</b>	<b>2.4</b>
High-income	9,714	9,811	64.2	68.2	81.1	64.5	0.1
Upper middle-income	1,678	3,441	61.1	71.5	14.0	22.6	7.4
Lower middle-income	548	1,852	74.3	34.3	4.6	12.2	12.9
Low-income	37	97	32.4	11.3	0.3	0.6	10.1

Note: WIPO estimates cover 67 offices and include the following number of offices: high-income countries (35), upper middle-income countries (21), lower middle-income countries (9), and low-income countries (2). The EU's Community Plant Variety Office data are allocated to the high-income group because the majority of its member states are high-income countries.

Source: WIPO statistics database, October 2014.

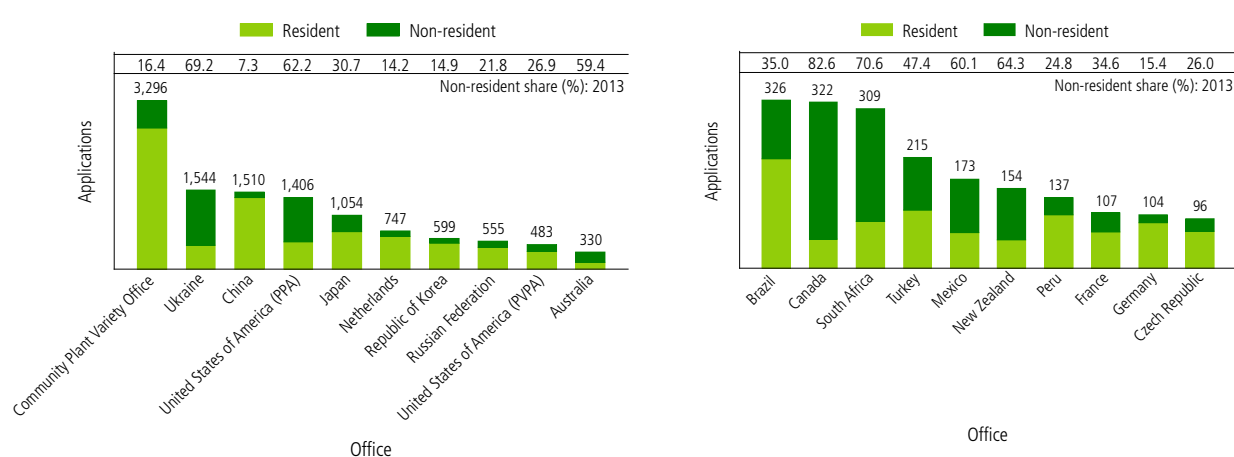
### D4 Plant variety applications by region

	Number of applications		Resident share (%)		Share of world total (%)		Average growth (%)
	2003	2013	2003	2013	2003	2013	2003-13
<b>World Total</b>	<b>11,980</b>	<b>15,200</b>	<b>64.1</b>	<b>64.3</b>	<b>100.0</b>	<b>100.0</b>	<b>2.4</b>
Africa	383	554	27.2	22.2	3.2	3.6	3.8
Asia	2,351	3,609	70.5	80.8	19.6	23.7	4.4
Europe	6,099	7,128	77.2	69.5	50.9	46.9	1.6
Latin America & the Caribbean	744	1,215	36.2	46.0	6.2	8.0	5.0
North America	1,845	2,211	40.5	42.6	15.4	14.5	1.8
Oceania	555	484	35.5	39.0	4.6	3.2	-1.4

Note: WIPO estimates cover data for 67 offices and include the following number of offices: Africa (4), Asia (11), Europe (33), Latin America & the Caribbean (14), North America (3), and Oceania (2).

Source: WIPO statistics database, October 2014.

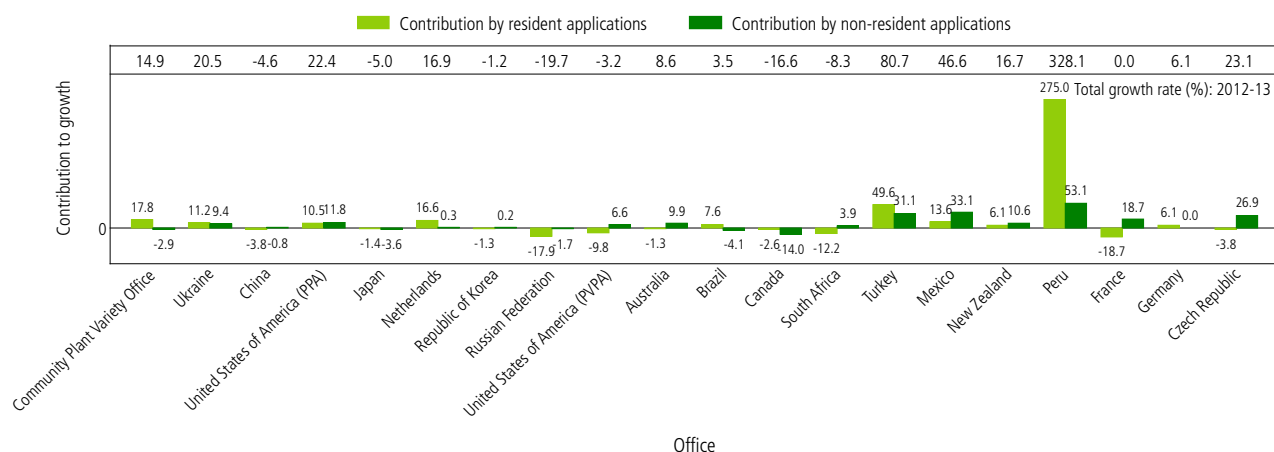
### D5 Plant variety applications for the top 20 offices, 2013



Note: United States of America (PVPA) refers to Plant Variety Protection Act data, and United States of America (PPA) refers to Plant Patent Act data.

Source: WIPO statistics database, October 2014.

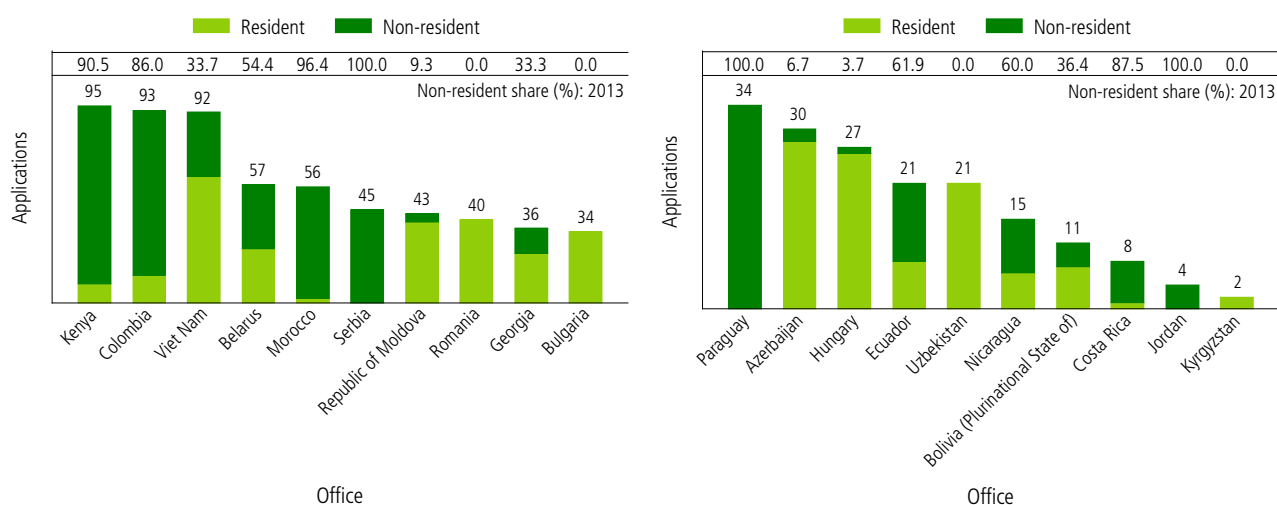
D6 Contribution of resident and non-resident applications to total growth for the top 20 offices, 2012-13



Note: United States of America (PVPA) refers to Plant Variety Protection Act data, and United States of America (PPA) refers to Plant Patent Act data. This figure shows total growth in applications broken down by resident and non-resident applications. For example, the total number of applications at the office of Ukraine grew by 20.5%, and resident applications accounted for 11.2 percentage points of this increase.

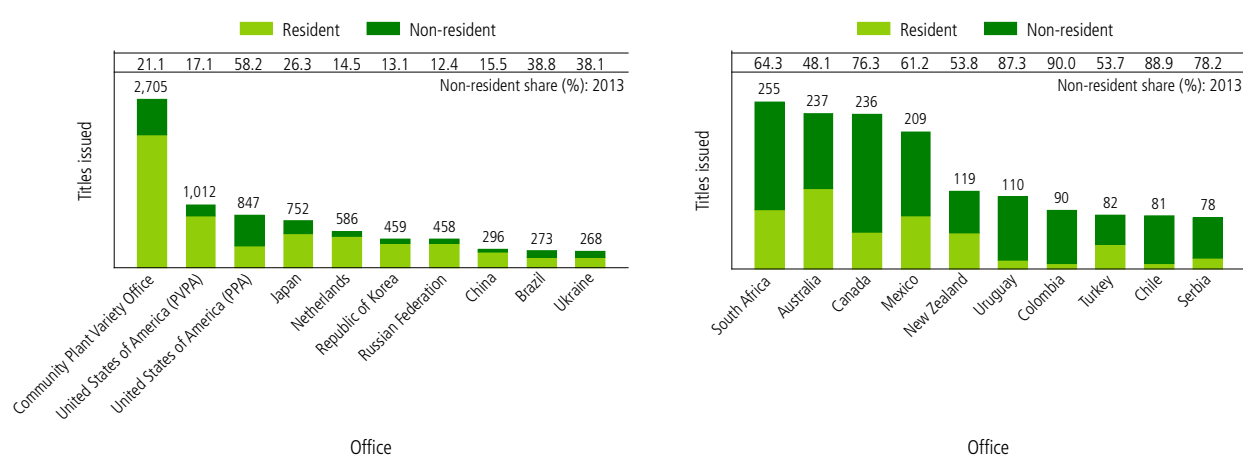
Source: WIPO statistics database, October 2014.

D7 Plant variety applications for offices of selected low- and middle-income countries, 2013



Source: WIPO statistics database, October 2014.

D8 Plant variety titles issued for the top 20 offices, 2013



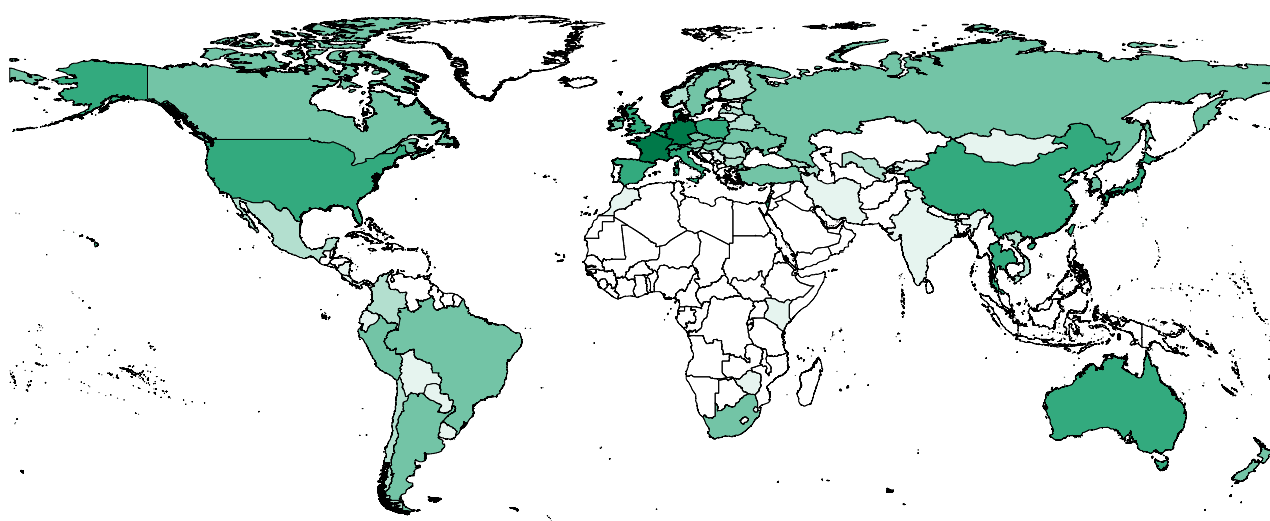
Note: United States of America (PVPA) refers to Plant Variety Protection Act data, and United States of America (PPA) refers to Plant Patent Act data.

Source: WIPO statistics database, October 2014.

## Plant variety applications and titles issued by origin

D9 Equivalent plant variety applications by origin, 2013

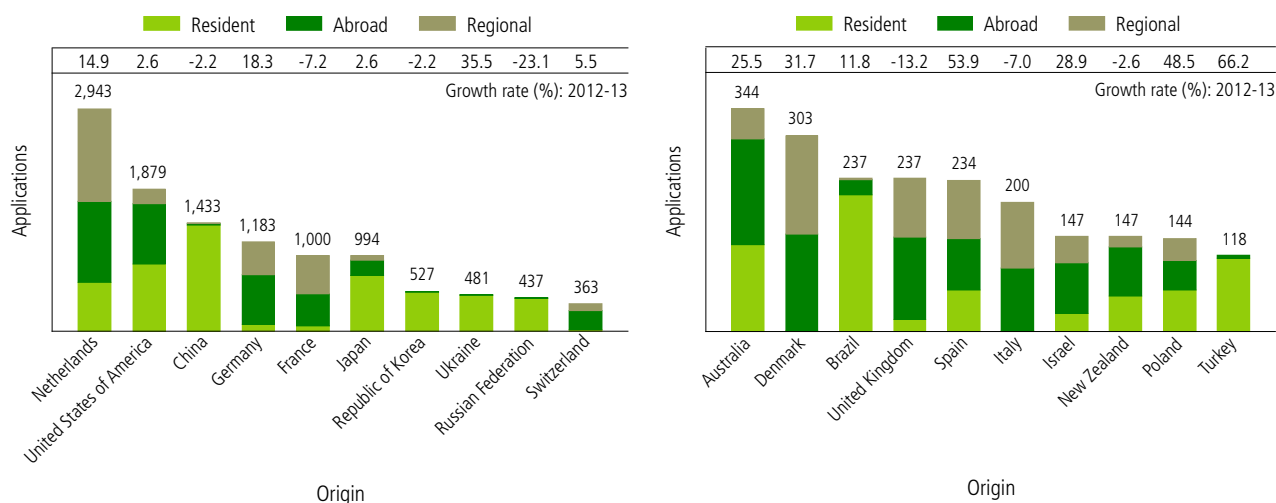
1-9 10-99 100-999 1,000-9,999 10,000-35,000 No data



Note: Origin of applications is determined by the residence of the applicant. Because some offices do not provide data broken down by origin, the numbers of applications by origin shown are likely to be lower than their actual numbers. See the glossary for the definition of equivalent application.

Source: WIPO statistics database, October 2014.

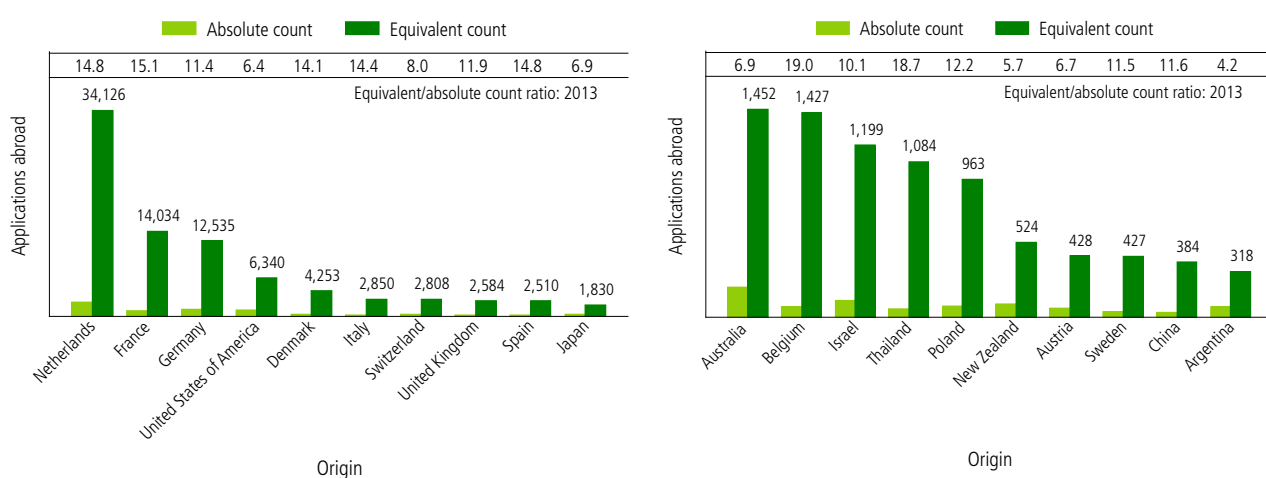
D10 Plant variety applications for the top 20 origins, 2013



Note: Origin of applications is determined by the residence of the applicant. Because some offices do not provide data broken down by origin, the numbers of applications by origin shown are likely to be lower than their actual numbers. Regional refers to applications filed at the Community Plant Variety Office.

Source: WIPO statistics database, October 2014.

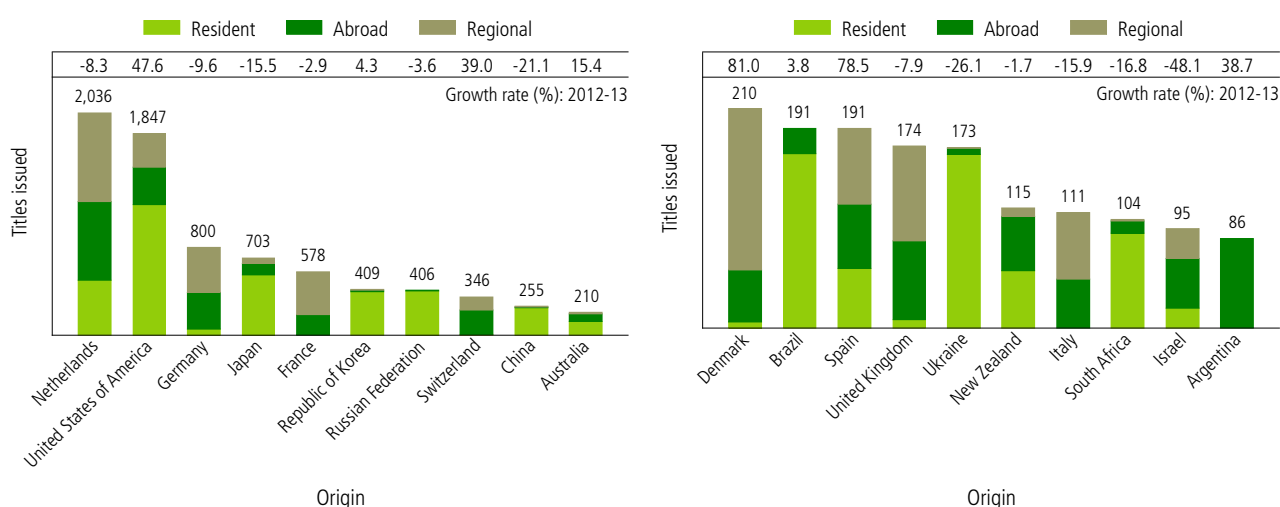
D11 Plant variety applications abroad for the top 20 origins, 2013



Note: Origin of applications is determined by the residence of the applicant. Because some offices do not provide data broken down by origin, the number of applications by origin shown are likely to be lower than their actual numbers. See the glossary for the definition of equivalent application.

Source: WIPO statistics database, October 2014.

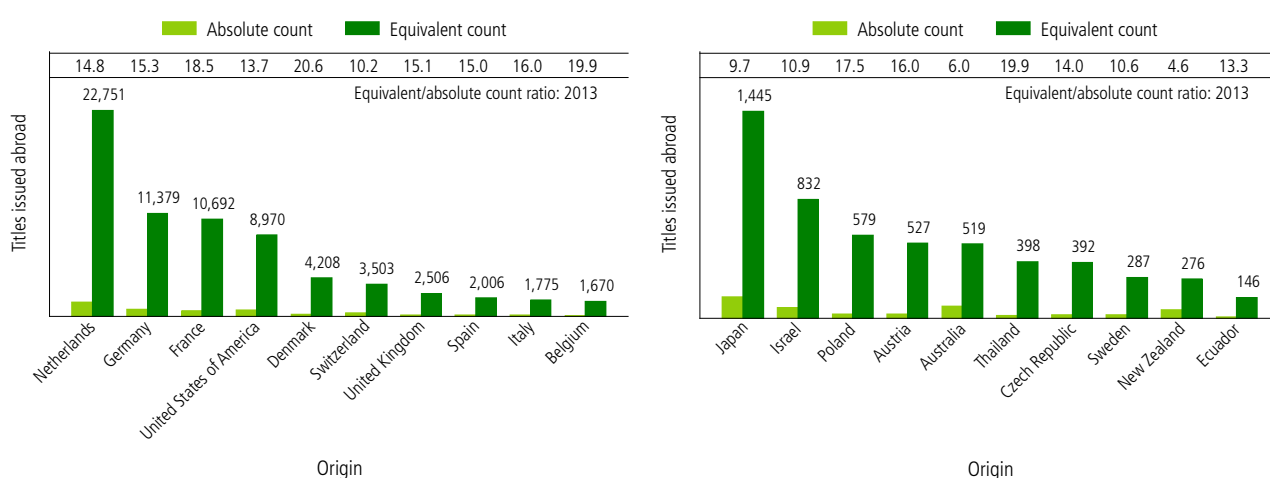
D12 Plant variety titles issued for the top 20 origins, 2013



Note: Origin of titles is determined by the residence of the applicant. Because some offices do not provide data broken down by origin, the numbers of titles issued by origin shown are likely to be lower than their actual numbers. The number of titles issued for Argentina would be higher if data for the national office were available.

Source: WIPO statistics database, October 2014.

D13 Plant variety titles issued abroad for the top 20 origins, 2013

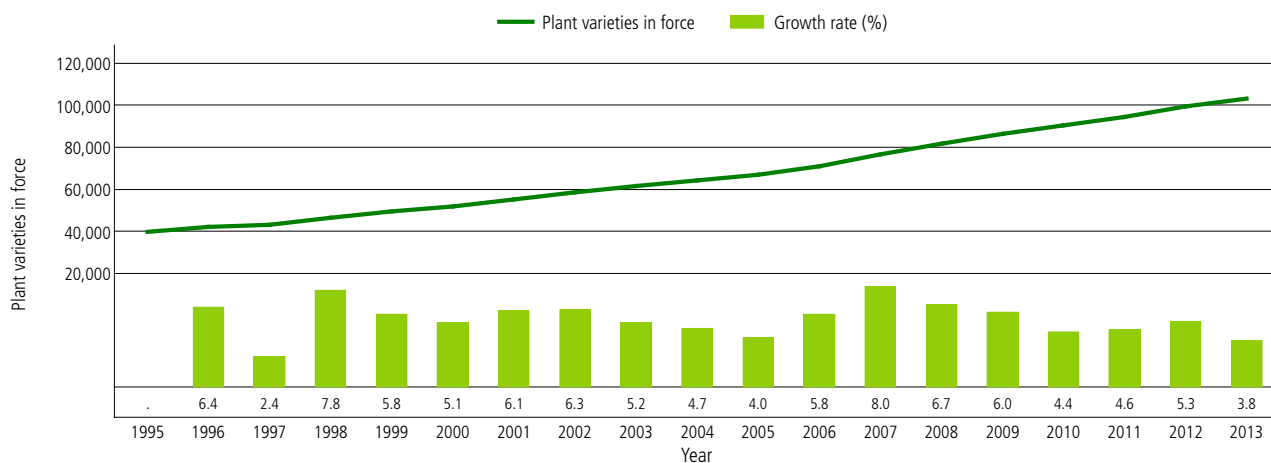


Note: Origin of titles is determined by the residence of the applicant. Because some offices do not provide data broken down by origin, the numbers of titles issued by origin shown are likely to be lower than their actual numbers.

Source: WIPO statistics database, October 2014.

## Plant varieties in force

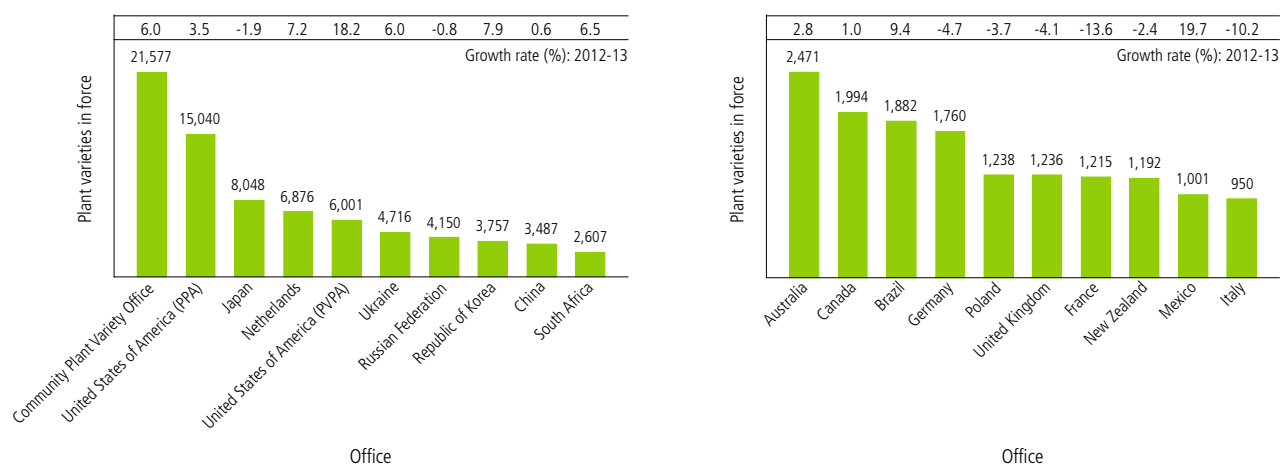
D14 Trend in plant varieties in force worldwide



Note: WIPO estimates cover 66 offices.

Source: WIPO statistics database, October 2014.

D15 Plant varieties in force at selected offices, 2013



Note: United States of America (PVPA) refers to Plant Variety Protection Act data, and United States of America (PPA) refers to Plant Patent Act data.

Source: WIPO statistics database, October 2014.

## Statistical table

D16 Plant variety applications and titles issued by office and origin, 2013

Name	Applications by Office			Applications by Origin	Equivalent applications by Origin	Titles issued by Office			Plant varieties in force
	Total	Resident	Non-Resident			Total	Resident	Non-Resident	
Argentina <sup>(a)</sup>	..	..	..	75	318	..	..	..	..
Australia	330	134	196	344	1,586	237	123	114	2,471
Austria	2	1	1	65	443	..	..	..	51
Azerbaijan	30	28	2	28	28	14	14	0	229
Belarus	57	26	31	30	30	49	26	23	281
Belgium <sup>(a)</sup>	..	..	..	75	1,479	..	..	..	102
Bolivia (Plurinational State of)	11	7	4	7	7	10	6	4	48
Brazil	326	212	114	237	291	273	167	106	1,882
Bulgaria	34	34	0	39	39	24	24	0	389
Canada	322	56	266	92	119	236	56	180	1,994
Chile	69	7	62	18	72	81	9	72	735
China	1,510	1,400	110	1,433	1,784	296	250	46	3,487
Colombia	93	13	80	16	16	90	9	81	496
Community Plant Variety Office	3,296	2,754	542	n.a.	..	2,705	2,135	570	21,577
Costa Rica	8	1	7	5	5	4	1	3	7
Croatia	2	2	0	3	3	..	..	..	33
Cyprus <sup>(b)</sup>	..	..	..	2	2	..	..	..	..
Czech Republic	96	71	25	97	340	66	58	8	721
Denmark	3	2	1	303	4,407	7	6	1	193
Ecuador	21	8	13	8	8	70	0	70	372
Estonia	15	5	10	5	5	12	3	9	85
Finland	11	6	5	12	66	5	5	0	170
France	107	70	37	1,000	14,608	..	..	..	1,215
Georgia	36	24	12	24	24	5	5	0	45
Germany	104	88	16	1,183	13,063	59	55	4	1,760
Hungary	27	26	1	52	322	19	18	1	86
India <sup>(b)</sup>	..	..	..	2	2	..	..	..	..
Iran (Islamic Republic of) <sup>(b)</sup>	..	..	..	2	2	..	..	..	..
Ireland	2	2	0	20	182	1	1	0	64
Israel	46	28	18	147	1,227	22	19	3	924
Italy	2	2	0	200	2,954	..	..	..	950
Japan	1,054	730	324	994	2,560	752	554	198	8,048
Jordan	4	0	4	..	..	4	0	4	34
Kenya	95	9	86	9	9	23	15	8	317
Kyrgyzstan	2	2	0	2	2	2	2	0	4
Latvia	5	5	0	8	62	4	4	0	267
Lithuania	12	6	6	6	6	13	6	7	54
Luxembourg <sup>(b)</sup>	..	..	..	81	81	..	..	..	..
Mauritius <sup>(b)</sup>	..	..	..	1	1	..	..	..	..
Mexico	173	69	104	69	69	209	81	128	1,001
Monaco <sup>(b)</sup>	..	..	..	1	28	..	..	..	..
Mongolia <sup>(b)</sup>	..	..	..	1	1	..	..	..	..
Morocco	56	2	54	2	2	24	0	24	217
Netherlands	747	641	106	2,943	35,991	586	501	85	6,876
New Zealand	154	55	99	147	579	119	55	64	1,192
Nicaragua	15	6	9	6	6	..	..	..	6
Norway	30	10	20	12	12	18	0	18	254
Panama	2	2	0	9	9	..	..	..	13
Paraguay	34	0	34	1	1	37	3	34	380
Peru	137	103	34	106	106	10	4	6	55
Poland	88	65	23	144	1,062	58	52	6	1,238
Portugal	1	0	1	..	..	2	2	0	11
Republic of Korea	599	510	89	527	527	459	399	60	3,757
Republic of Moldova	43	39	4	45	45	25	21	4	121

Name	Applications by Office			Applications by Origin	Equivalent applications by Origin	Titles issued by Office			Plant varieties in force
	Total	Resident	Non-Resident			Total	Resident	Non-Resident	
Romania	40	40	0	46	46	67	67	0	295
Russian Federation	555	434	121	437	437	458	401	57	4,150
Serbia	45	0	45	5	5	78	17	61	115
Singapore <sup>(a)</sup>	..	..	..	2	2	..	..	..	..
Slovakia	18	15	3	23	131	29	26	3	400
Slovenia	3	3	0	6	87	..	..	..	11
South Africa	309	91	218	107	323	255	91	164	2,607
Spain	74	64	10	234	2,664	62	57	5	349
Swaziland <sup>(b)</sup>	..	..	..	5	5	..	..	..	..
Sweden	4	2	2	39	444	6	6	0	168
Switzerland	77	12	65	363	2,820	52	2	50	776
Thailand <sup>(b)</sup>	..	..	..	58	1,084	..	..	..	..
Turkey	215	113	102	118	118	82	38	44	425
Ukraine	1,544	475	1,069	481	481	268	166	102	4,716
United Kingdom	37	19	18	237	2,694	18	8	10	1,236
United States of America (PVPA)	483	353	130	1,879	7,225	1,012	839	173	6,001
United States of America (PPA) <sup>(c)</sup>	1,406	532	874	n.a.	..	847	354	493	15,040
Uruguay	54	6	48	6	6	110	14	96	515
Uzbekistan	21	21	0	21	21	10	10	0	65
Viet Nam	92	61	31	61	61	67	31	36	212
Zimbabwe <sup>(b)</sup>	..	..	..	1	1	..	..	..	..

a. The office did not report data, so applications by origin data may be incomplete.

b. Not a member of the International Union for the Protection of New Varieties of Plants.

c. Applications by origin are reported under United States of America (PVPA), because statistics by origin do not distinguish between applications under the Plant Variety Protection Act (PVPA) or the Plant Patent Act (PPA).

.. indicates not available.

Source: WIPO statistics database, October 2014.