

Plant varieties



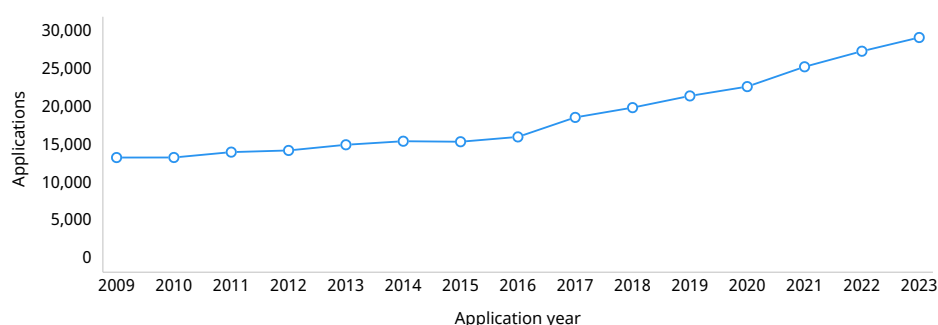
Highlights

Global growth in plant variety applications continues

In 2023, approximately 29,070 plant variety applications were filed worldwide, marking a 6.6% increase compared to 2022 and extending the growth trend into an eighth consecutive year (figure 4.1). China was the largest contributor to this global expansion, followed by the Kingdom of the Netherlands.

Applications grew by 6.6% in 2023

4.1. Plant variety applications worldwide, 2009–2023



Source: Figure D1.

China leads, receiving 55.7% of global plant variety applications filed in 2023

In 2023, China retained its position as the leading destination for plant variety applications, receiving 16,184 applications and accounting for over half of the global total. The Community Plant Variety Office (CPVO) of the European Union (EU) ranked second with 2,866 applications, representing 9.9% of global filings. Following the CPVO were the United States of America (US) (1,149), the Kingdom of the Netherlands (856) and the Russian Federation (852) (figure 4.2). China's filings saw a significant increase for a ninth consecutive year, increasing by nearly a quarter (+24.2%) on 2022, driven almost entirely by resident filings (figure D6). Among top 10 offices, the Kingdom of the Netherlands experienced notable growth (+25.1%), as did the Republic of Korea (+12.2%), both of whom returned to a longer term application growth trend after a steep decline in 2022.

Seven of the top 10 offices underwent a decline in applications in 2023. The CPVO saw a 10.2% drop, primarily due to fewer submissions from France, Germany, and the Kingdom of the Netherlands. Similarly, the US recorded a 16.4% decline, largely driven by a decrease in domestic applications. The United Kingdom's (UK) 819 applications were down 51.9% on 2022. That said, this decline is misleading, owing to the UK office having had an extremely large spike in applications in 2022 as a result of its

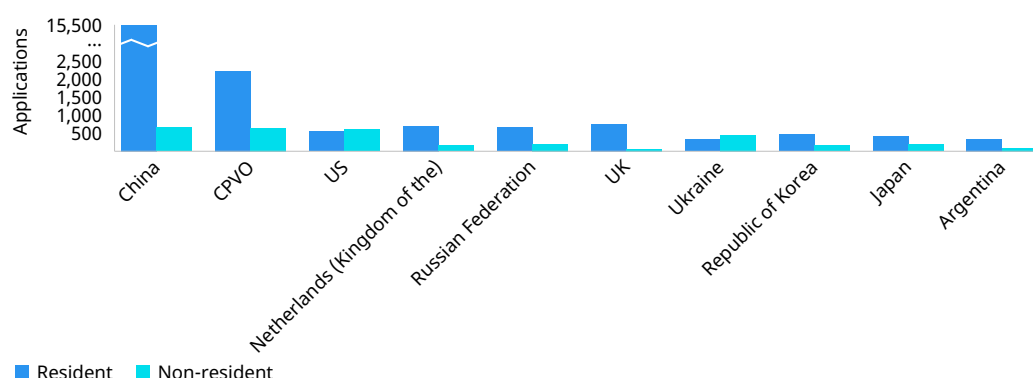
transitioning out of the EU. Among other top 10 offices to record a reduction in applications were Argentina (–1.6%), Japan (–13.5%), the Russian Federation (–1.5%) and Ukraine (–2.7%).

The combined share of applications received at the top five jurisdictions worldwide grew by 1.4 percentage points in 2023, reaching 75.4%. This increase was mainly due to a continued rise in filings in China and growth in filings in the Kingdom of the Netherlands.

Eight of the top 10 jurisdictions received more applications from residents than from non-residents in 2023. China had the highest resident share among the top 10, with 95.9% of applications originating from domestic applicants. Conversely, Ukraine and the US were the only two jurisdictions among the top 10 where non-residents filed more applications than residents, with 58.2% and 52.8% of applications originating from abroad, respectively.

China continues to be the top destination for plant variety applications

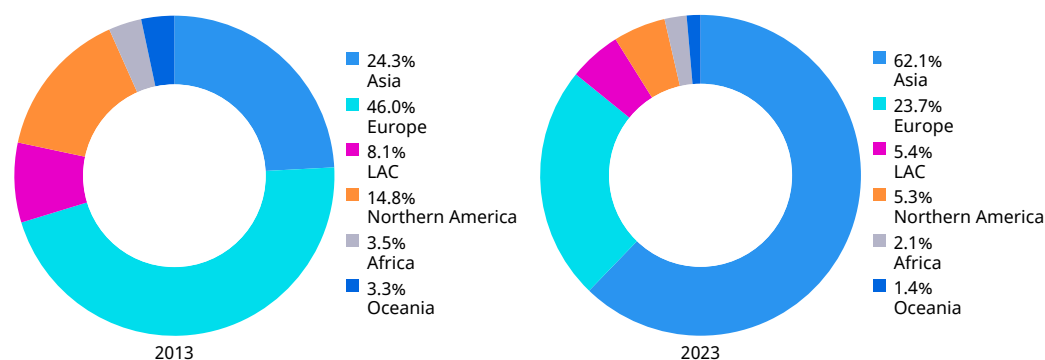
4.2. Plant variety applications for the top 10 offices, 2023



Note: CPVO is the Community Plant Variety Office of the European Union.
Source: Figure D5.

Asia is the top region, with 62.1% of all applications in 2023

4.3. Plant variety applications by region, 2013 and 2023



Note: LAC is Latin America and the Caribbean.
Source: Table D3.

Asia was the region receiving the most plant variety filings in 2023, accounting for 62.1% of all applications. Since 2013, filings in Asia have almost quintupled significantly increasing the region's global share from 24.3% in 2013 (figure 4.3). Europe ranked as the second-largest region, representing about 23.7% of the global total in 2023. That said, the surge in filings within Asia witnessed during this period has caused Europe's collective share to decline from the 46.0% of total filings it accounted for back in 2013. Over the past decade, Asia (+17.4%), Latin America and the Caribbean (+2.6%) and Africa (+1.6%) have all seen positive average annual growth. Meanwhile, Europe's application numbers in 2023 remained nearly unchanged from its 2013 levels. In contrast, Northern America (–3.5%) and Oceania (–1.6%) have experienced declines, both recording negative average annual growth rates over the period.

China-based applicants lead global plant variety filings

Applications received by offices from resident and non-resident applicants are referred to as office data, whereas applications filed by applicants at a national or regional office (resident applications) or at a foreign office (applications abroad) are referred to as origin data. Here, plant variety statistics based on the origin of residence are reported in order to complement the global picture. Note that for applicants domiciled within EU member states, filing at the CPVO regional office is regarded as a resident filing, when discussing office data, and such filings are regarded as regional filings, when discussing origin data.

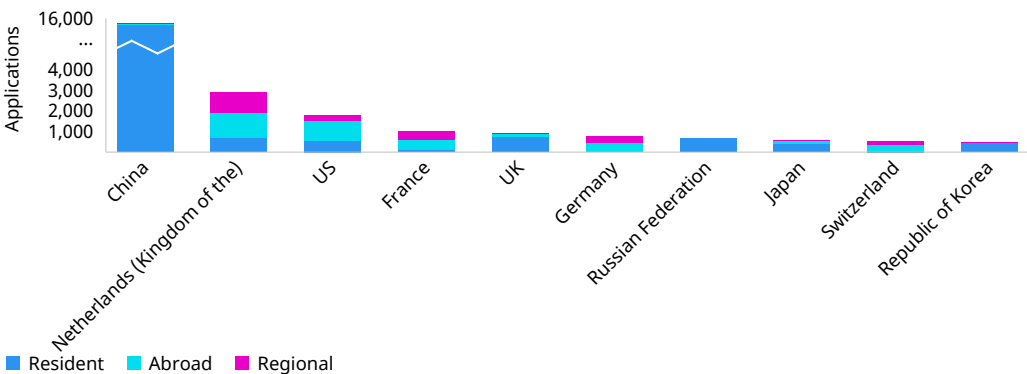
In 2023, China-based applicants were the most active globally, submitting 15,552 plant variety applications (figure 4.4). This marks a 25.9% increase on the previous year, driven primarily by resident filings. Following China, applicants from the Kingdom of the Netherlands filed 2,924 applications, reflecting growth of 1.7% over the prior year. The next largest origins were the US (1,763), France (993) and the UK (939). Together, these top five origins accounted for 76.3% of total plant variety filings worldwide in 2023, with China (53.5% of the total) and the Kingdom of the Netherlands (10.1%) contributing the largest shares.

Among the top 10 origins, only four experienced positive growth in plant variety applications compared to the previous year. In addition to the growth in applications from China, applicants from the Kingdom of the Netherlands (+1.7%), the Republic of Korea (+6.6%) and the Russian Federation (+11.3%) saw a notable increase in filings. The rise in applications from the Kingdom of the Netherlands was driven by a 3.3% growth in resident filings, although filings abroad and at regional offices decreased by 1.5%. The growth experienced by Russian applicants was entirely driven by applications within their home jurisdiction.

While applicants from five of the top 10 origins filed primarily applications abroad or at regional offices, those from China filed almost exclusively at their home office. Similarly, applicants from Japan, the Republic of Korea, the Russian Federation and the UK also predominantly filed within their respective home jurisdictions.

Applicants from China filed primarily at their home office

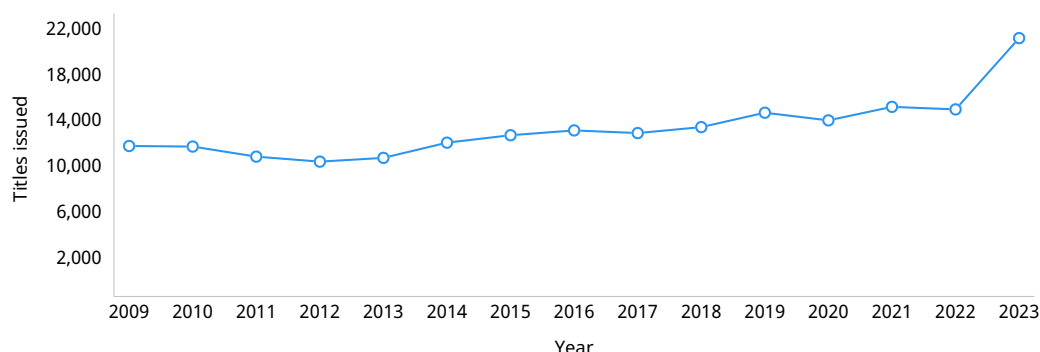
4.4. Plant variety applications for the top 10 origins, 2023



Source: Figure D11.

Plant variety titles increased by 41.8% in 2023

4.5. Plant variety titles issued worldwide, 2009–2023



Source: Figure D2.

Plant variety titles issued increased significantly in 2023

In 2023, the total number of plant variety titles issued increased substantially by 41.8% (figure 4.5). The 21,150 plant variety titles issued in 2023 marked a significant rise compared to the previous year. China led the way, issuing 9,300 titles, representing a 131% increase on the year. This substantial growth in titles issued by China can be attributed to their efforts to address the large backlog of applications that had accumulated due to the rapid increase in applications since 2014.

Following China, the CPVO issued 2,718 titles, the US 1,149, Ukraine 1,045 and the UK 1,033 (figure D9). Similarly to China, the UK also experienced a very large increase in the number of titles issued, growing over 1,400% from 2022, when only 67 titles were issued. This sharp rise can be attributed to a significant influx of applications following the UK's withdrawal from the EU, as well as an exceptionally large number of applications received in 2022. It is important to note that the UK also issued 21,805 plant variety titles in 2023 related to plant variety rights transferred from the EU, as part of the withdrawal agreement. As these titles were not the result of direct applications they were excluded from the analysis in order to ensure a more accurate comparison between offices.

In addition to China and the UK, the Republic of Korea (+28.7%), the Russian Federation (+59%), South Africa (+7.6%) and Ukraine (+9.3%) also reported strong growth in the number of titles issued. In contrast, several offices experienced a decline in 2023 compared to 2022, including the CPVO (–8.3%) and the offices of Japan (–26%), the Kingdom of the Netherlands (–1.3%) and the US (–25.6%).

Note that the grant or registration process takes time, therefore fluctuations in the volume of plant variety titles granted may be a consequence of changes in processing capacity or procedural delay.

Rapid growth in plant varieties in force

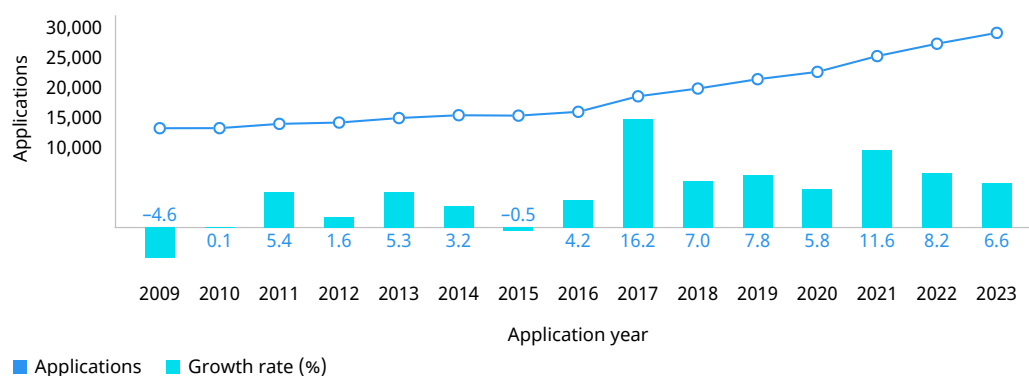
Around 195,610 plant variety titles were in force at the end of 2023, up 21.3% on 2022 (figure D15). China (32,518), the CPVO (30,932), the US (28,384) and the UK (23,694) had the highest number of active titles (figure D16). It should be noted that the UK number does include all the plant variety rights transferred from the EU, as this is an accurate reflection of the number of titles in force in the UK jurisdiction. Other offices maintaining at least 5,000 active titles included Ukraine (12,925), the Kingdom of the Netherlands (9,988), Japan (7,369) the Russian Federation (6,971) and the Republic of Korea (6,532).

Plant variety statistics

Plant variety applications and titles issued worldwide	152
D1. Trend in plant variety applications worldwide, 2009–2023	152
D2. Trend in plant variety titles issued worldwide, 2009–2023	152
Plant variety applications and titles issued by office	152
D3. Plant variety applications by region, 2013 and 2023	152
D4. Trend in plant variety applications for the top five offices, 2000–2023	153
D5. Plant variety applications for the top 20 offices, 2023	153
D6. Contribution of resident and non-resident applications to total growth for the top 20 offices, 2022–2023	153
D7. Plant variety applications for offices of selected low- and middle-income countries, 2023	154
D8. Flow of non-resident applications for the top offices, 2023	155
D9. Plant variety titles issued by the top 20 offices, 2023	156
D10. Trend in plant variety titles issued for the top five offices, 2000–2023	156
Plant variety applications and titles issued by origin	157
D11. Plant variety applications for the top 20 origins, 2023	157
D12. Plant variety applications abroad for the top 20 origins, 2023	157
D13. Plant variety titles issued for the top 20 origins, 2023	157
D14. Plant variety titles issued abroad for the top 20 origins, 2023	158
Plant varieties in force	158
D15. Trend in plant varieties in force worldwide, 2009–2023	158
D16. Plant varieties in force at selected offices, 2023	158
Statistical table	159
D17. Plant variety applications and titles issued by office and origin, and plant variety titles in force by office, 2023	159

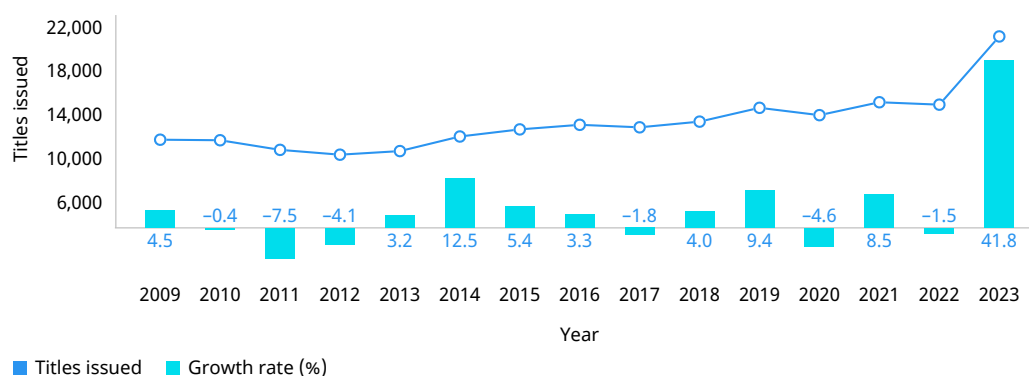
Plant variety applications and titles issued worldwide

D1. Trend in plant variety applications worldwide, 2009–2023



Note: World totals are WIPO estimates using data covering 72 offices.
Source: WIPO Statistics Database, August 2024.

D2. Trend in plant variety titles issued worldwide, 2009–2023



Note: World totals are WIPO estimates using data covering 72 offices.
Source: WIPO Statistics Database, August 2024.

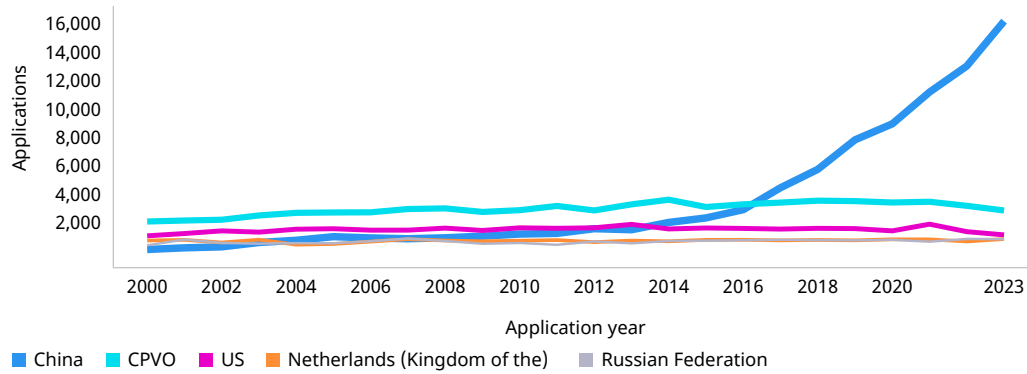
Plant variety applications and titles issued by office

D3. Plant variety applications by region, 2013 and 2023

Region	Number of applications		Resident share (%)		Share of world total (%)		Average growth (%)
	2013	2023	2013	2023	2013	2023	
Africa	514	600	23.2	18.0	3.5	2.1	1.6
Asia	3,615	18,053	80.7	93.0	24.3	62.1	17.4
Europe	6,854	6,886	70.6	74.6	46.0	23.7	0.0
Latin America and the Caribbean	1,212	1,569	51.8	54.7	8.1	5.4	2.6
Northern America	2,211	1,548	42.6	41.2	14.8	5.3	-3.5
Oceania	484	414	39.0	42.3	3.3	1.4	-1.6
World	14,890	29,070	64.7	81.5	100.0	100.0	6.9

Note: Totals by geographic region are WIPO estimates using data covering 72 offices. Each region includes the following number of offices: Africa (7), Asia (12), Europe (34), Latin America and the Caribbean (14), Northern America (3) and Oceania (2).
Source: WIPO Statistics Database, August 2024.

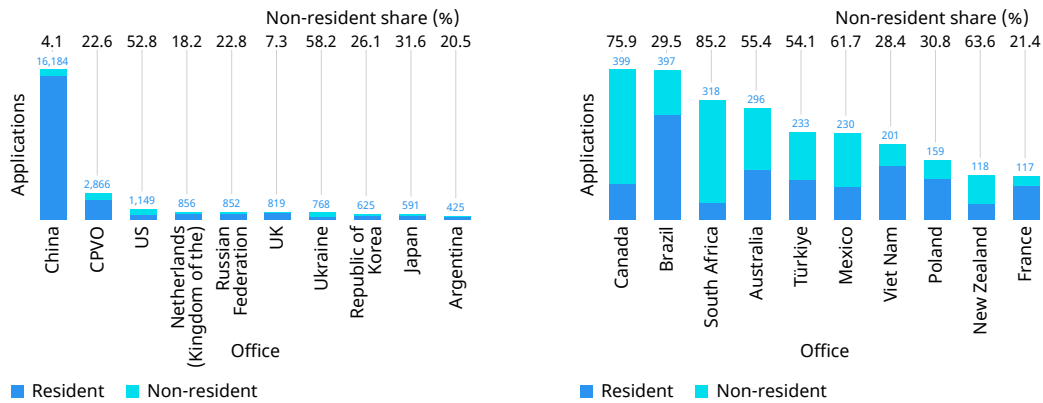
D4. Trend in plant variety applications for the top five offices, 2000–2023



Note: CPVO is the Community Plant Variety Office of the European Union. The top five offices were selected based on 2023 totals.

Source: WIPO Statistics Database, August 2024.

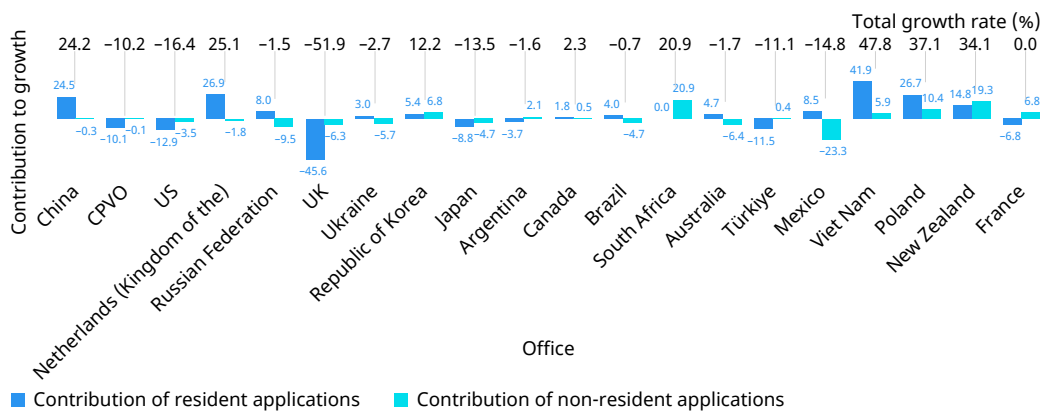
D5. Plant variety applications for the top 20 offices, 2023



Note: CPVO is the Community Plant Variety Office of the European Union. In general, the national offices of CPVO member states receive lower volumes of applications, because applicants may choose to apply via the CPVO when seeking protection within any CPVO member state.

Source: WIPO Statistics Database, August 2024.

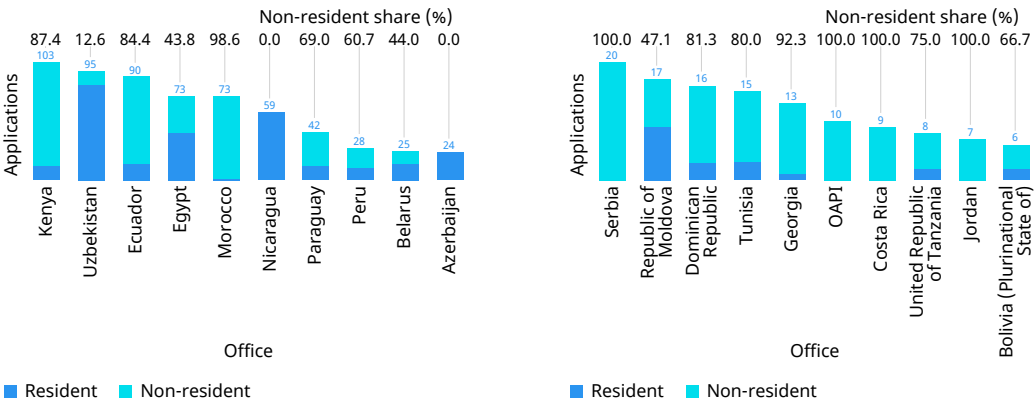
D6. Contribution of resident and non-resident applications to total growth for the top 20 offices, 2022–2023



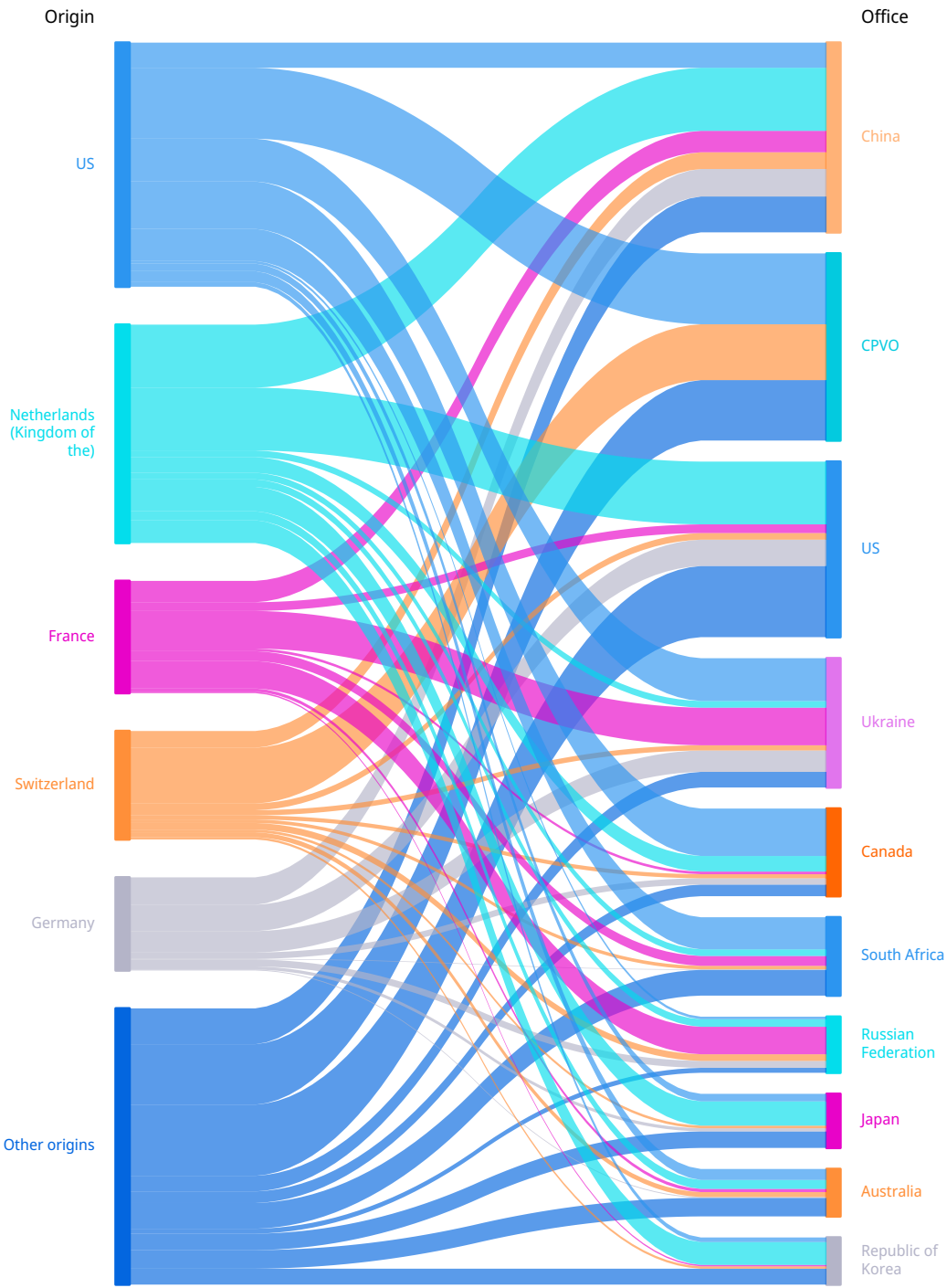
Note: CPVO is the Community Plant Variety Office of the European Union. The figure shows total growth in plant variety applications broken down by the respective contributions of resident and non-resident filings. For example, applications in Viet Nam grew by 47.8%, with resident applications contributing 41.9 percentage points to total growth and non-resident applications accounting for the other 5.9 percentage points.

Source: WIPO Statistics Database, August 2024.

D7. Plant variety applications for offices of selected low- and middle-income countries, 2023

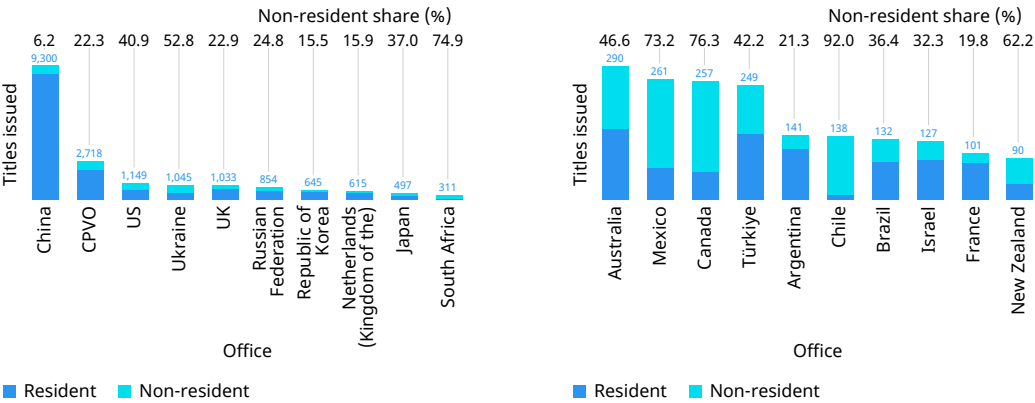


Note: OAPI is the African Intellectual Property Organization. The offices selected are from different world regions and income groups. Where available, data for all offices can be found in the statistical table at the end of this section.
Source: WIPO Statistics Database, August 2024.



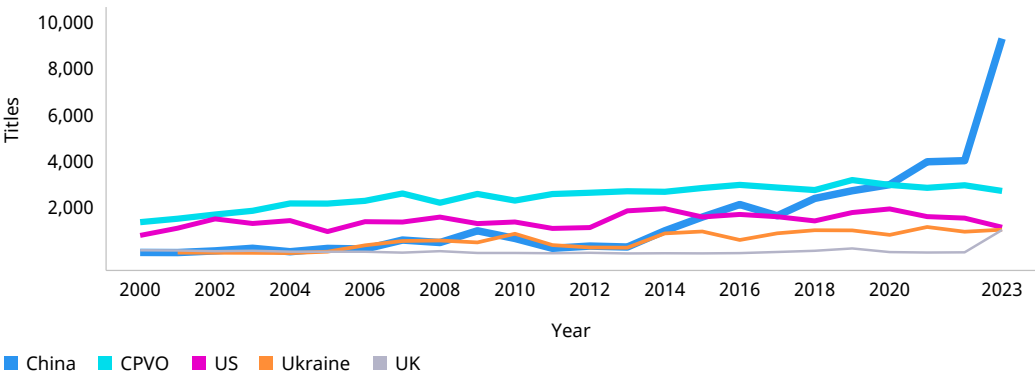
Note: CPVO is the Community Plant Variety Office of the European Union.
Source: WIPO Statistics Database, August 2024.

D9. Plant variety titles issued by the top 20 offices, 2023



Note: CPVO is the Community Plant Variety Office of the European Union. To ensure comparability between offices, the 21,805 Plant Variety Rights (PVR) transferred to the UK by the European Union (referred to as “Retained EU PVRs”) that had been granted by the end of the transition period (December 31, 2020) as part of the Withdrawal Agreement between the UK and the EU have been excluded. Please see the statistical table for the total number of titles issued by the UK. The procedure for issuing titles varies across offices, and factors such as examination capacity and procedural delays mean there are differences in the time lag between application and title issue dates. For this reason, data on applications for any given year should not be compared with data on titles issued that same year.
Source: WIPO Statistics Database, August 2024.

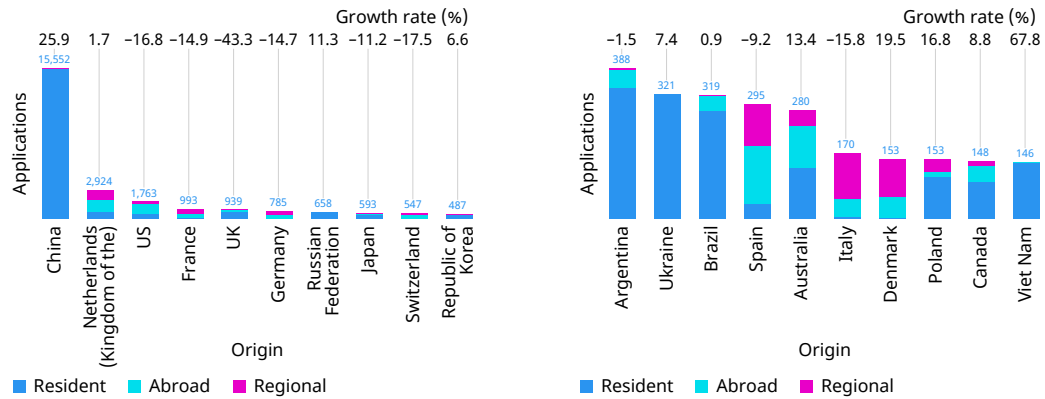
D10. Trend in plant variety titles issued for the top five offices, 2000–2023



Note: CPVO is the Community Plant Variety Office of the European Union. The top five offices were selected based on 2023 totals. To ensure comparability between offices, the 21,805 Plant Variety Rights (PVR) transferred to the UK by the European Union (referred to as “Retained EU PVRs”) that had been granted by the end of the transition period (December 31, 2020) as part of the Withdrawal Agreement between the UK and the EU have been excluded. Please see the statistical table for the total number of titles issued by the UK.
Source: WIPO Statistics Database, August 2024.

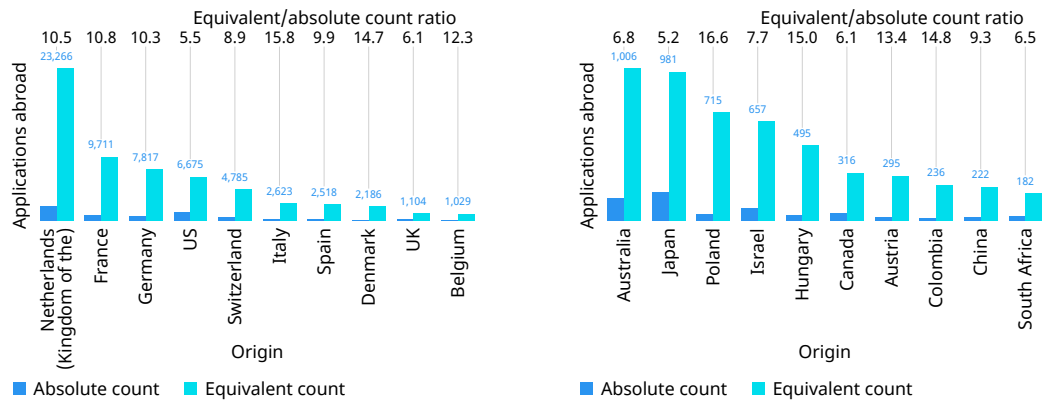
Plant variety applications and titles issued by origin

D11. Plant variety applications for the top 20 origins, 2023



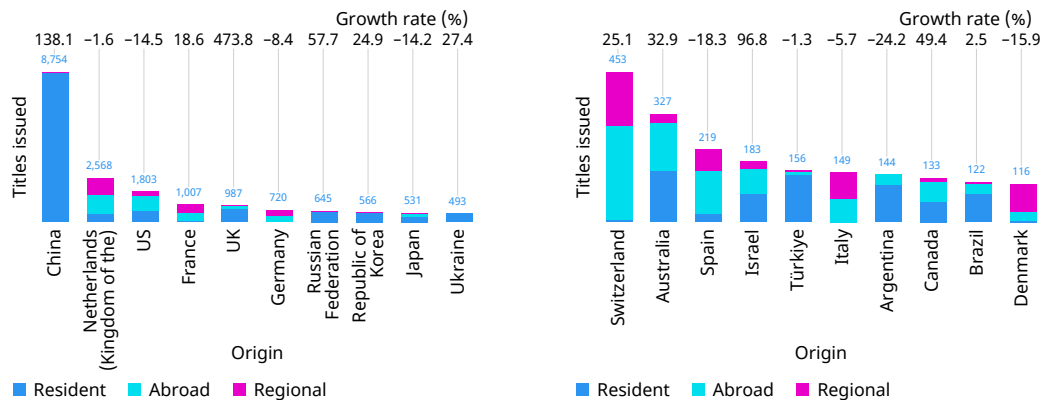
Note: Data are based on an absolute not an equivalent count. Applications by origin include resident applications and applications filed abroad. The origin of an application is determined by the residence of the applicant. Regional refers to applications filed at the Community Plant Variety Office of the European Union.
Source: WIPO Statistics Database, August 2024.

D12. Plant variety applications abroad for the top 20 origins, 2023



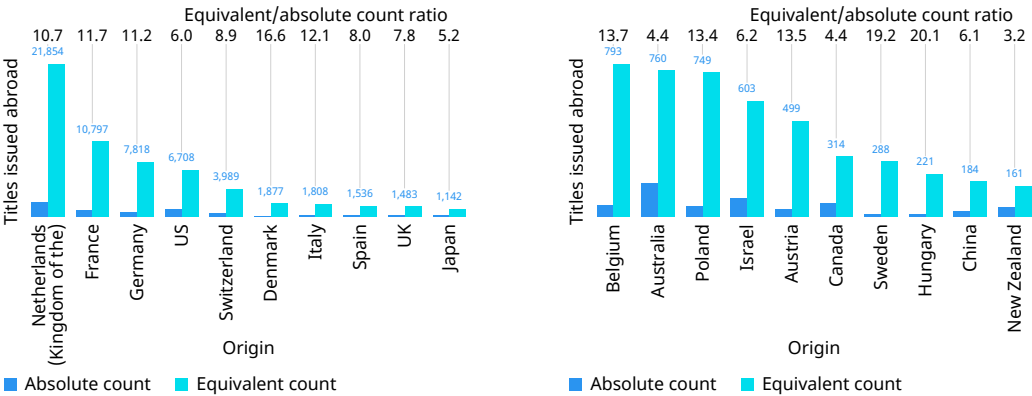
Note: The origin of an application is determined by the residence of the applicant. Applications filed at regional offices are considered equivalent to multiple applications in the relevant member states. See glossary for the definition of equivalent applications.
Source: WIPO Statistics Database, August 2024.

D13. Plant variety titles issued for the top 20 origins, 2023



Note: Data are based on an absolute not an equivalent count. The origin of titles issued is determined by the residence of the applicant. Regional refers to titles issued by the Community Plant Variety Office of the European Union.
Source: WIPO Statistics Database, August 2024.

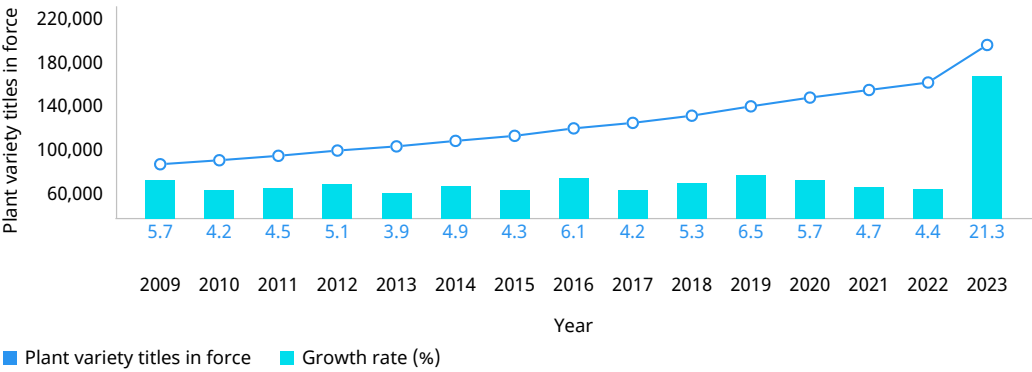
D14. Plant variety titles issued abroad for the top 20 origins, 2023



Note: The origin of titles issued is determined by the residence of the applicant. Titles issued by regional offices are considered equivalent to multiple titles in the relevant member states. See glossary for the definition of equivalent count. Source: WIPO Statistics Database, August 2024.

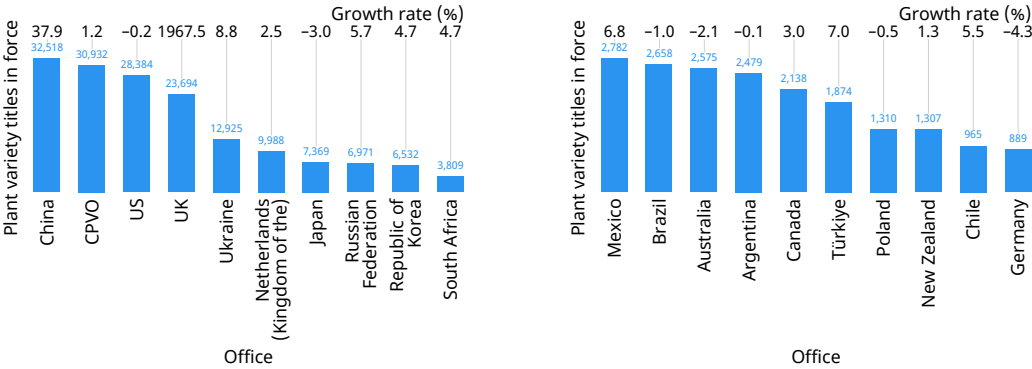
Plant varieties in force

D15. Trend in plant varieties in force worldwide, 2009–2023



Note: World totals are WIPO estimates using data covering 70 offices. Source: WIPO Statistics Database, August 2024.

D16. Plant varieties in force at selected offices, 2023



Note: CPVO is the Community Plant Variety Office of the European Union. Source: WIPO Statistics Database, August 2024.

D17. Plant variety applications and titles issued by office and origin, and plant variety titles in force by office, 2023

Name	Applications by office			Applications by origin	Equivalent applications by origin	Titles issued by office			Plant varieties in force
	Total	Resident	Non-resident	Total	Total	Total	Resident	Non-resident	Office
African Intellectual Property Organization	10	1	9	..	..	14	0	14	19
Argentina	425	338	87	388	476	141	111	30	2,479
Australia	296	132	164	280	1,138	290	155	135	2,575
Austria (a)	..	..	..	22	308	..	..	..	13
Azerbaijan	24	24	0	24	24	24	24	0	271
Belarus	25	14	11	24	24	32	20	12	295
Belgium	3	3	0	87	1,077	..	..	..	32
Bolivia (Plurinational State of)	6	2	4	3	3	6	2	4	60
Brazil	397	280	117	319	341	132	84	48	2,658
Bulgaria	21	21	0	23	45	50	50	0	328
Cameroon (b)	..	..	..	1	17	..	..	..	..
Canada	399	96	303	148	412	257	61	196	2,138
Chile	91	17	74	21	43	138	11	127	965
China	16,184	15,528	656	15,552	15,750	9,300	8,724	576	32,518
Colombia	115	23	92	39	259	65	11	54	801
Community Plant Variety Office	2,866	2,219	647	n.a.	..	2,718	2,111	607	30,932
Costa Rica	9	0	9	1	23	9	0	9	32
Croatia	15	15	0	15	15	..	..	..	67
Czech Republic	45	38	7	52	206	48	46	2	831
Denmark	5	4	1	153	2,287	6	3	3	45
Dominican Republic	16	3	13	3	3	2	2	0	37
Ecuador	90	14	76	15	15	18	5	13	417
Egypt	73	41	32	41	41	63	24	39	526
Estonia	3	2	1	2	2	3	3	0	91
Finland (a)	..	..	..	6	94	..	..	..	..
France	117	92	25	993	10,221	101	81	20	873
Georgia	13	1	12	1	1	4	0	4	221
Germany	26	24	2	785	8,177	32	21	11	889
Greece (b)	..	..	..	6	138	..	..	..	..
Guatemala (b)	..	..	..	1	1	..	..	..	..
Honduras (b)	..	..	..	6	6	..	..	..	..
Hungary	16	16	0	49	533	23	23	0	202
India (b)	..	..	..	6	6	..	..	..	..
Iran (Islamic Republic of) (b)	..	..	..	1	23	..	..	..	..
Ireland	2	2	0	14	90	2	2	0	51
Israel	71	26	45	111	683	127	86	41	851
Italy	4	4	0	170	2,744	..	..	..	38
Jamaica (b)	..	..	..	4	4	..	..	..	..
Japan	591	404	187	593	1,385	497	313	184	7,369
Jordan	7	0	7	..	..	10	0	10	78
Kazakhstan (b)	..	..	..	1	1	..	..	..	..
Kenya	103	13	90	14	14	68	6	62	570
Kyrgyzstan	2	2	0	2	2	9	9	0	17
Lao People's Democratic Republic (b)	..	..	..	14	14	..	..	..	..
Latvia	16	16	0	17	39	5	4	1	185
Lithuania	5	5	0	5	5	6	6	0	135
Mauritius (b)	..	..	..	5	27	..	..	..	..
Mexico	230	88	142	96	96	261	70	191	2,782
Morocco	73	1	72	3	3	89	1	88	747
Netherlands (Kingdom of the)	856	700	156	2,924	24,968	615	517	98	9,988
New Zealand	118	43	75	92	180	90	34	56	1,307
Nicaragua	59	59	0	61	61	10	10	0	28
Norway	15	3	12	3	3	19	4	15	216

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	
Panama (a)	..	..	..	..	..	..	..	..	25
Paraguay	42	13	29	17	17	35	11	24	228
Peru	28	11	17	42	42	58	8	50	413
Philippines (b)	..	..	..	1	1	..	..	..	..
Poland	159	110	49	153	857	56	47	9	1,310
Portugal (a)	..	..	..	12	56	..	..	..	8
Republic of Korea	625	462	163	487	597	645	545	100	6,532
Republic of Moldova	17	9	8	9	9	24	21	3	300
Romania	33	33	0	38	38	37	37	0	526
Russian Federation	852	658	194	658	658	854	642	212	6,971
Serbia	20	0	20	..	..	40	1	39	524
Singapore	4	1	3	1	1	3	0	3	14
Slovakia	6	6	0	8	8	6	6	0	275
Slovenia	1	1	0	4	70	1	1	0	8
South Africa	318	47	271	75	229	311	78	233	3,809
Spain	51	40	11	295	2,665	39	27	12	447
Sri Lanka (b)	..	..	..	1	1	..	..	..	..
Sweden (a)	..	..	..	6	94	3	3	0	77
Switzerland	57	8	49	547	4,793	71	6	65	621
Thailand (b)	..	..	..	7	51	..	..	..	..
Tunisia	15	3	12	3	3	18	1	17	246
Türkiye	233	107	126	109	109	249	144	105	1,874
Uganda (b)	..	..	..	1	1	..	..	..	..
Ukraine	768	321	447	321	321	1,045	493	552	12,925
United Kingdom (d)	819	759	60	939	1,863	22,838	796	22,042	23,694
United Republic of Tanzania	8	2	6	2	2	12	5	7	145
United States of America (PPA) (c)	844	341	503	n.a.	..	689	319	370	19,792
United States of America (PVPA)	305	201	104	1,763	7,217	460	360	100	8,592
Uruguay	55	10	45	12	12	41	9	32	616
Uzbekistan	95	83	12	83	83	13	13	0	156
Viet Nam	201	144	57	146	146	61	21	40	551
Zambia (b)	..	..	..	4	4	..	..	..	..
Zimbabwe (b)	..	..	..	1	1	..	..	..	..
Others/Unknown	..	..	..	57	233	..	..	..	..
Total (2023 estimates)	29,070	23,700	5,370	29,070	n.a.	21,150	9,800	2,210	195,610

(a) This office did not report data; therefore, applications by origin data may be incomplete.

(b) This office is not a member of the International Union for the Protection of New Varieties of Plants (UPOV).

(c) Applications by origin are reported under the United States of America Plant Varieties Protection Act (PVPA).

(d) Includes the 21,805 Plant Variety Rights (PVR) transferred to the UK by the European Union (referred to as "Retained EU PVRs") that had been granted by the end of the transition period (December 31, 2020) as part of the Withdrawal Agreement between the UK and the EU.

n.a. indicates not applicable.

.. indicates not available.

Source: WIPO Statistics Database, August 2024.