

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
World																
Total articles	12,189	12,533	11,888	13,430	12,551	13,957	14,435	13,622	15,788	16,686	16,920	18,626	18,244	17,798	18,834	19,360
with multiple institutions	5,706	6,084	5,894	6,991	6,699	7,613	8,290	8,067	9,476	10,339	10,700	12,150	12,493	12,301	13,065	13,590
with domestic institutions only	10,656	10,846	10,216	11,329	10,540	11,700	11,918	11,238	12,838	13,435	13,487	14,709	14,204	13,882	14,398	14,855
with international institutions	1,533	1,687	1,672	2,101	2,011	2,257	2,517	2,384	2,950	3,251	3,433	3,917	4,040	3,916	4,436	4,505
Canada																
Total articles	913	950	858	932	837	893	934	869	967	968	1,138	1,131	1,174	1,047	1,086	1,114
with multiple institutions	491	524	481	582	533	561	636	568	639	674	784	808	874	775	796	852
with domestic institutions only	722	748	691	697	624	644	656	605	661	635	777	729	731	650	662	666
with international institutions	191	202	167	235	213	249	278	264	306	333	361	402	443	397	424	448
Mexico																
Total articles	105	98	87	130	127	154	180	172	190	237	239	220	220	228	261	254
with multiple institutions	75	76	68	101	98	108	146	145	153	204	208	182	191	188	225	220
with domestic institutions only	50	44	41	57	72	87	80	76	81	101	81	102	101	119	115	132
with international institutions	55	54	46	73	55	67	100	96	109	136	158	118	119	109	146	122
United States																
Total articles	3,877	3,760	3,084	4,030	3,552	4,328	4,368	3,937	4,046	4,508	4,218	4,517	4,161	4,031	4,127	4,171
with multiple institutions	2,089	1,989	1,731	2,300	2,032	2,547	2,710	2,508	2,697	3,031	2,903	3,126	3,042	2,931	3,032	3,112
with domestic institutions only	3,326	3,176	2,528	3,266	2,862	3,527	3,450	3,130	3,096	3,454	3,095	3,249	2,896	2,814	2,754	2,761
with international institutions	551	584	556	764	690	801	918	807	950	1,054	1,123	1,268	1,265	1,217	1,373	1,410
Argentina																
Total articles	132	121	138	137	166	219	163	174	230	235	235	270	247	280	286	327
with multiple institutions	73	62	81	95	107	139	112	126	161	170	168	210	202	216	241	264
with domestic institutions only	102	97	108	102	125	162	103	116	153	158	156	189	161	203	182	211
with international institutions	30	24	30	35	41	57	60	58	77	77	79	81	86	77	104	116
Brazil																
Total articles	123	180	157	181	175	283	284	273	343	419	432	476	561	545	697	792
with multiple institutions	88	143	120	140	128	201	223	209	254	321	341	368	450	434	557	647
with domestic institutions only	58	83	80	96	92	166	161	162	226	271	263	309	351	371	468	547
with international institutions	65	97	77	85	83	117	123	111	117	148	169	167	210	174	229	245
Chile																
Total articles	19	15	24	22	24	49	36	64	56	72	77	82	100	79	111	117
with multiple institutions	12	11	12	16	18	30	28	53	41	61	62	66	81	73	93	98
with domestic institutions only	9	8	16	11	9	26	17	28	30	30	30	38	44	28	47	53
with international institutions	10	7	8	11	15	23	19	36	26	42	47	44	56	51	64	64
Austria																
Total articles	58	55	64	74	83	85	72	58	94	122	99	108	139	144	156	136
with multiple institutions	35	30	40	44	57	69	55	48	80	93	80	89	114	117	135	121
with domestic institutions only	35	36	39	43	37	33	33	28	36	54	46	41	50	54	44	36
with international institutions	23	19	25	31	46	52	39	30	58	68	53	67	89	90	112	100

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium																
Total articles	153	166	185	207	191	192	248	272	335	367	344	369	337	337	351	359
with multiple institutions	91	101	107	119	116	119	162	173	240	268	252	295	276	286	303	315
with domestic institutions only	97	100	110	130	116	113	153	156	181	187	174	187	153	162	161	166
with international institutions	56	66	75	77	75	79	95	116	154	180	170	182	184	175	190	193
Czech Republic																
Total articles	34	40	35	42	41	57	59	66	70	86	90	105	132	108	119	123
with multiple institutions	22	23	19	22	29	42	37	49	45	63	66	73	92	71	87	92
with domestic institutions only	22	25	24	30	25	31	36	30	45	54	62	75	88	65	72	72
with international institutions	12	15	11	12	16	26	23	36	25	32	28	30	44	43	47	51
Denmark																
Total articles	172	234	224	281	257	244	314	278	310	308	364	321	291	312	368	381
with multiple institutions	87	123	145	190	146	155	223	187	198	223	250	244	222	235	300	308
with domestic institutions only	119	170	146	171	179	168	199	191	200	180	215	180	141	169	177	174
with international institutions	53	64	78	110	78	76	115	87	110	128	149	141	150	143	191	207
Finland																
Total articles	120	120	109	141	138	170	140	137	151	170	164	157	177	169	145	169
with multiple institutions	62	69	71	92	86	109	87	96	114	126	131	125	144	133	112	139
with domestic institutions only	89	84	69	83	96	115	96	91	101	110	114	90	92	100	79	79
with international institutions	31	36	40	58	42	55	44	46	50	60	50	67	85	69	66	90
France																
Total articles	533	601	572	695	644	653	597	705	698	779	803	831	888	823	818	821
with multiple institutions	317	360	375	430	414	440	407	502	524	614	655	661	747	727	706	728
with domestic institutions only	390	430	399	462	433	426	384	441	428	437	409	463	478	365	375	392
with international institutions	143	171	173	233	211	227	213	264	270	342	394	368	410	458	443	429
Germany																
Total articles	733	775	748	837	787	843	772	729	988	973	872	963	995	1,002	1,095	1,100
with multiple institutions	329	364	362	457	444	479	431	442	576	627	601	662	697	711	807	771
with domestic institutions only	566	570	557	569	517	547	510	488	646	586	497	561	568	574	583	623
with international institutions	167	205	191	268	270	296	262	241	342	387	375	402	427	428	512	477
Greece																
Total articles	93	87	106	124	146	152	158	151	219	250	230	229	220	194	174	210
with multiple institutions	51	52	54	60	82	77	95	99	138	143	142	159	155	138	121	153
with domestic institutions only	72	57	88	97	110	121	116	104	173	195	171	172	157	129	107	146
with international institutions	21	30	18	27	36	31	42	47	46	55	59	57	63	65	67	64
Hungary																
Total articles	35	50	44	50	41	56	57	36	94	77	51	55	83	64	60	60
with multiple institutions	25	32	35	37	31	44	34	24	77	56	42	47	66	53	51	48
with domestic institutions only	17	33	21	36	20	31	36	19	47	39	17	18	44	27	23	29
with international institutions	18	17	23	14	21	25	21	17	47	38	34	37	39	37	37	31

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Ireland																
Total articles	87	133	140	170	165	170	139	131	184	242	219	267	269	267	257	281
with multiple institutions	54	88	77	115	112	113	94	78	127	154	153	192	206	197	201	237
with domestic institutions only	57	98	117	103	114	122	93	95	112	157	114	156	165	188	147	145
with international institutions	30	35	23	67	51	48	46	36	72	85	105	111	104	79	110	136
Italy																
Total articles	280	336	302	371	382	451	466	511	620	598	715	874	888	899	947	950
with multiple institutions	173	217	196	228	241	319	303	331	413	393	501	598	658	656	695	719
with domestic institutions only	198	237	206	271	271	306	347	369	455	415	498	588	564	597	584	605
with international institutions	82	99	96	100	111	145	119	142	165	183	217	286	324	302	363	345
Netherlands																
Total articles	390	424	372	433	346	374	433	382	440	448	470	440	441	402	498	477
with multiple institutions	234	276	232	296	232	266	312	297	355	356	383	369	386	348	429	406
with domestic institutions only	247	262	233	235	181	217	260	204	203	204	225	204	168	168	202	193
with international institutions	143	162	139	198	165	157	173	178	237	244	245	236	273	234	296	284
Poland																
Total articles	89	118	107	125	105	153	156	152	221	186	222	247	234	236	254	334
with multiple institutions	54	69	57	84	70	79	91	81	124	116	127	146	158	149	171	200
with domestic institutions only	52	70	70	69	57	100	105	109	149	121	149	171	143	156	177	227
with international institutions	37	48	37	56	48	53	51	43	72	65	73	76	91	80	77	107
Portugal																
Total articles	64	80	74	94	91	101	114	111	141	174	189	203	220	226	282	250
with multiple institutions	40	51	42	61	66	63	84	84	107	129	141	161	185	184	231	217
with domestic institutions only	36	47	50	60	47	58	58	67	81	108	111	120	128	122	157	137
with international institutions	28	33	24	34	44	43	56	44	60	66	78	83	92	104	125	113
Spain																
Total articles	596	636	660	726	675	829	904	931	1,117	1,251	1,263	1,458	1,507	1,400	1,560	1,584
with multiple institutions	236	277	279	356	329	440	479	479	597	712	722	866	963	933	1,077	1,055
with domestic institutions only	506	530	558	578	551	626	683	714	856	941	944	1,054	1,067	930	1,008	1,027
with international institutions	90	106	102	148	124	203	221	217	261	310	319	404	440	470	552	557
Sweden																
Total articles	180	215	199	261	196	206	228	211	239	207	241	226	216	204	263	246
with multiple institutions	94	119	126	176	136	129	169	141	175	153	185	173	166	168	203	204
with domestic institutions only	120	142	119	148	105	109	113	120	125	104	109	103	110	87	118	92
with international institutions	60	73	80	113	91	97	115	91	114	103	132	123	106	117	145	154
United Kingdom																
Total articles	945	1,068	1,020	1,071	930	888	937	774	875	829	912	920	825	762	783	764
with multiple institutions	498	596	539	647	587	552	631	546	619	591	690	704	659	601	614	601
with domestic institutions only	680	752	700	675	586	552	550	431	466	436	430	430	372	318	311	301
with international institutions	265	316	320	396	344	336	387	343	409	393	482	490	453	444	472	463

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway																
Total articles	72	83	107	116	97	106	114	127	175	163	162	167	163	148	172	169
with multiple institutions	43	46	62	75	62	69	82	104	145	126	138	141	144	133	145	139
with domestic institutions only	46	59	67	69	54	63	74	76	95	86	86	88	79	76	93	85
with international institutions	26	24	40	47	43	43	40	51	80	77	76	79	84	72	79	84
Russia																
Total articles	354	205	175	192	177	179	59	29	34	46	43	35	37	23	29	27
with multiple institutions	71	69	57	70	65	54	37	25	30	41	40	34	34	20	26	21
with domestic institutions only	325	164	149	166	154	155	29	6	7	10	7	3	6	5	6	9
with international institutions	29	41	26	26	23	24	30	23	27	36	36	32	31	18	23	18
Switzerland																
Total articles	143	125	141	159	146	154	188	147	207	187	229	253	215	234	266	225
with multiple institutions	75	82	80	92	81	99	135	96	151	136	168	194	161	194	217	185
with domestic institutions only	84	69	74	91	96	85	96	71	102	82	93	102	90	79	80	78
with international institutions	59	56	67	68	50	69	92	76	105	105	136	151	125	155	186	147
Iran																
Total articles	11	11	10	20	19	32	60	63	76	135	166	209	231	262	279	323
with multiple institutions	9	8	8	15	12	16	40	44	53	102	121	147	173	198	195	241
with domestic institutions only	3	5	2	10	12	19	35	38	40	69	115	129	135	181	197	216
with international institutions	8	6	8	10	7	13	25	25	36	66	51	80	96	81	82	107
Israel																
Total articles	115	110	117	168	127	142	150	128	139	114	121	143	144	110	141	127
with multiple institutions	60	60	73	110	88	103	100	92	100	83	81	113	106	79	112	97
with domestic institutions only	87	84	71	95	68	87	84	74	84	68	82	70	91	69	76	84
with international institutions	28	26	46	73	59	55	66	54	55	46	39	73	53	41	65	43
Saudi Arabia																
Total articles	16	18	13	16	9	8	7	8	6	4	6	7	10	29	45	58
with multiple institutions	4	5	2	1	4	1	6	4	5	2	5	4	10	23	40	54
with domestic institutions only	14	14	13	15	7	7	2	5	4	2	2	4	1	8	7	11
with international institutions	2	4	-	1	2	1	5	3	2	2	4	3	9	21	38	47
Turkey																
Total articles	52	85	86	124	136	198	285	382	423	472	390	393	380	317	374	340
with multiple institutions	25	36	47	56	74	98	149	212	218	247	202	238	238	209	262	236
with domestic institutions only	41	73	57	98	103	153	212	299	343	397	322	314	284	251	292	252
with international institutions	11	12	29	26	33	45	73	83	80	75	68	79	96	66	82	88
Egypt																
Total articles	59	66	60	69	55	61	50	47	49	61	61	75	106	104	143	118
with multiple institutions	32	38	37	39	29	41	37	37	33	42	34	58	91	88	114	95
with domestic institutions only	38	44	35	38	38	38	20	20	24	33	40	32	38	42	52	38
with international institutions	21	22	25	31	17	23	30	27	25	28	21	43	68	62	91	80

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
South Africa																
Total articles	61	59	62	73	60	79	88	90	110	107	109	116	129	133	141	161
with multiple institutions	38	37	36	43	37	45	62	58	64	72	75	77	86	87	108	123
with domestic institutions only	48	43	45	44	36	52	53	59	68	53	66	68	75	86	68	86
with international institutions	13	16	17	29	24	27	35	31	42	54	43	48	54	47	73	75
China																
Total articles	91	130	149	177	208	267	343	416	639	876	1,153	1,624	1,713	1,855	2,180	2,483
with multiple institutions	66	90	78	134	146	190	255	325	464	626	813	1,207	1,333	1,407	1,638	1,892
with domestic institutions only	34	59	89	82	103	131	166	221	386	556	783	1,081	1,112	1,219	1,478	1,755
with international institutions	57	71	60	95	105	136	177	195	253	320	370	543	601	636	702	728
India																
Total articles	258	266	299	334	306	307	336	340	394	530	595	565	548	571	573	579
with multiple institutions	86	96	114	126	126	132	139	150	189	249	295	267	269	317	328	308
with domestic institutions only	217	230	253	280	250	251	269	278	324	433	477	460	453	439	438	467
with international institutions	41	36	46	54	56	56	67	62	70	97	118	105	95	132	135	112
Japan																
Total articles	989	1,047	1,189	1,206	1,276	1,229	1,382	1,069	1,521	1,257	1,310	1,458	1,401	1,237	1,339	1,185
with multiple institutions	477	520	604	639	680	681	792	682	891	821	845	999	978	880	922	804
with domestic institutions only	879	928	1,058	1,052	1,090	1,068	1,188	895	1,260	1,011	1,051	1,143	1,119	1,000	1,056	921
with international institutions	110	119	131	154	186	161	194	174	261	246	259	315	282	237	283	264
Singapore																
Total articles	10	4	10	3	9	19	11	18	28	38	25	31	26	37	32	38
with multiple institutions	8	2	6	-	5	13	5	9	15	23	19	23	25	34	27	34
with domestic institutions only	4	3	4	3	5	10	6	10	14	21	9	11	9	14	10	15
with international institutions	6	1	6	-	4	9	5	8	14	17	16	20	17	23	22	23
South Korea																
Total articles	65	74	109	156	172	189	284	224	316	312	322	482	515	584	572	616
with multiple institutions	49	57	93	127	132	152	224	172	251	257	267	405	426	492	475	506
with domestic institutions only	39	44	61	88	101	125	168	146	186	187	191	288	347	385	397	417
with international institutions	26	30	48	68	71	64	116	78	130	125	131	194	168	199	175	199
Taiwan																
Total articles	72	84	105	111	135	163	153	162	205	233	266	266	325	343	366	308
with multiple institutions	32	42	44	54	85	100	98	102	137	157	208	219	277	302	316	260
with domestic institutions only	60	67	89	93	113	140	123	140	173	198	221	224	274	291	302	249
with international institutions	12	17	16	18	22	23	30	22	32	35	45	42	51	52	64	59
Australia																
Total articles	689	747	652	703	701	634	720	691	747	843	831	917	861	822	816	904
with multiple institutions	420	475	426	473	481	424	496	456	533	609	607	736	655	645	660	749
with domestic institutions only	561	584	515	536	548	473	545	517	550	601	577	574	560	517	486	507
with international institutions	128	163	137	167	153	161	175	174	197	242	254	343	301	305	330	397

Appendix table 5-49

S&E articles in agricultural sciences, by coauthorship attribute and selected country/economy: 1997–2012

Country/economy and coauthorship attribute	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
New Zealand																
Total articles	276	284	299	292	293	263	305	287	308	319	312	374	298	290	295	358
with multiple institutions	147	163	168	158	172	171	188	190	218	231	223	245	219	212	220	271
with domestic institutions only	216	212	250	225	220	179	211	207	198	187	182	236	161	175	170	212
with international institutions	60	72	49	67	73	84	94	80	110	132	130	138	137	115	125	146

NOTES: Article counts are from the set of journals covered by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles are classified by the year they entered the database, rather than the year of publication, and are assigned to a country/economy on the basis of the institutional address(es) listed in the article. Articles are credited on a whole-count basis (i.e., each collaborating country/economy is credited with one count). Countries/economies with less than 1% of internationally coauthored articles in 2012 are omitted. Articles with multiple institutions are counts of articles with two or more institutional addresses. Articles with domestic institutions only are counts of articles with one or more institutional addresses all within the country/economy. Articles with international institutions are counts of articles with one or more institutional addresses outside the country/economy.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, and The Patent Board™, special tabulations (2013) from Thomson Reuters, SCI and SSCI, http://thomsonreuters.com/products_services/science/.

Science and Engineering Indicators 2014