

**Appendix 2.** Community detection results for the soybean trade network using multiple methods.

**Table A2.1.** Louvain clustering results for the soybean network in the year 2013.

<u>Country</u>	<u>Group assignment</u>
Argentina	1
Australia	5
Austria	3
Belarus	3
Belgium	3
Belize	5
Benin	2
Bolivia	3
Bosnia and Herzegovina	3
Brazil	1
Bulgaria	3
Burkina Faso	2
Cambodia	1
Canada	5
Chile	5
China	1
Colombia	3
Costa Rica	3
Cote d'Ivoire	5
Croatia	3
Czech Republic	3
Denmark	3
Ecuador	3
Egypt	5
Estonia	3
Ethiopia	5
France	3
Georgia	3
Germany	3
Ghana	3
Greece	3
Guatemala	5
Hungary	3
India	5
Indonesia	5
Ireland	3

**Table A2.1. Continued**

---

Israel	3
Italy	3
Japan	5
Kazakhstan	3
Kenya	6
Korea	5
Kuwait	5
Latvia	3
Lebanon	3
Lithuania	3
Malawi	6
Malaysia	5
Mexico	5
Moldova	3
Nepal	5
Netherlands	3
New Zealand	5
Nicaragua	5
Paraguay	3
Peru	3
Philippines	5
Poland	3
Portugal	3
Romania	3
Russian Federation	3
Serbia	3
Singapore	5
Slovakia	3
Slovenia	3
South Africa	5
Spain	3
Sri Lanka	5
Sweden	3
Switzerland	5
Tanzania	6
Thailand	1
Togo	2
Turkey	3
Uganda	6

**Table A2.1.** Continued

---

Ukraine	3
United Kingdom	1
United States	5
Uruguay	4
Zambia	6
Zimbabwe	6
Bangladesh	3
Cuba	5
Iran	1
Syrian Arab Republic	3
Tunisia	4
United Arab Emirates	3
Venezuela	5
Viet Nam	5
Fiji	5
Papua New Guinea	5
Finland	1
Jordan	5
Luxembourg	3
Malta	3
Norway	1
Gabon	3
Jamaica	5
Algeria	5
Angola	6
Cameroon	1
Congo (DRC)	6
Equatorial Guinea	1
Guyana	1
Mozambique	6
Nigeria	5
Saudi Arabia	1
Turks and Caicos Islands	1
Mali	2
Brunei Darussalam	5
Mauritius	5
Morocco	5
Panama	5
Suriname	5

**Table A2.1. Continued**

---

Trinidad and Tobago	5
Chad	1
Cyprus	3
Democratic People's Republic of Korea	1
Guam	1
Liberia	5
Namibia	5
Pakistan	5
Qatar	3
Swaziland	5
Timor-Leste	5
Tonga	1
Unspecified	4
Greenland	3
Armenia	3
Libya	3
Niger	3
Senegal	3
Uzbekistan	3
Bahrain	5
El Salvador	5
Iraq	3
Oman	6
Seychelles	5
Yemen	5
Kyrgyzstan	3
Tajikistan	3
Botswana	6
New Caledonia	5
Samoa	5
Solomon Islands	5
Cabo Verde	3
Sao Tome and Principe	3
Macedonia	3
Montenegro	3
Maldives	1
Congo	5
Lesotho	5
Myanmar	3

**Table A2.1.** Continued

---

Iceland	3
Burundi	6
Rwanda	6
Laos	1
Azerbaijan	3
Turkmenistan	3
Bahamas	5
Barbados	5
Honduras	5
Saint Lucia	5

---

**Table A2.2.** Fast greedy clustering algorithm results for the soybean network in the year 2013.

<u>Country</u>	<u>Group assignment</u>
Argentina	1
Australia	2
Austria	2
Belarus	2
Belgium	2
Belize	1
Benin	5
Bolivia	6
Bosnia and Herzegovina	2
Brazil	1
Bulgaria	2
Burkina Faso	5
Cambodia	1
Canada	2
Chile	1
China	1
Colombia	6
Costa Rica	2
Cote d'Ivoire	2
Croatia	2
Czech Republic	2
Denmark	2
Ecuador	6
Egypt	2
Estonia	2
Ethiopia	2
France	2
Georgia	2
Germany	2
Ghana	2
Greece	2
Guatemala	1
Hungary	2
India	2
Indonesia	1
Ireland	2
Israel	2
Italy	2

**Table A2.2.** Continued.

<u>Country</u>	<u>Group assignment</u>
Japan	2
Kazakhstan	2
Kenya	3
Korea	1
Kuwait	2
Latvia	2
Lebanon	2
Lithuania	2
Malawi	3
Malaysia	2
Mexico	1
Moldova	2
Nepal	2
Netherlands	2
New Zealand	2
Nicaragua	4
Paraguay	2
Peru	6
Philippines	2
Poland	2
Portugal	2
Romania	2
Russian Federation	2
Serbia	2
Singapore	2
Slovakia	2
Slovenia	2
South Africa	2
Spain	2
Sri Lanka	2
Sweden	2
Switzerland	2
Tanzania	3
Thailand	1
Togo	5
Turkey	2
Uganda	3
Ukraine	2

**Table A2.2.** Continued.

<u>Country</u>	<u>Group assignment</u>
United Kingdom	1
United States	1
Uruguay	7
Zambia	3
Zimbabwe	3
Bangladesh	2
Cuba	1
Iran	1
Syria	2
Tunisia	7
United Arab Emirates	2
Venezuela	1
Viet Nam	1
Fiji	2
Papua New Guinea	2
Finland	1
Jordan	2
Luxembourg	2
Malta	2
Norway	2
Gabon	2
Jamaica	1
Algeria	2
Angola	3
Cameroon	1
Congo (DRC)	3
Equatorial Guinea	1
Guyana	1
Mozambique	3
Nigeria	1
Saudi Arabia	1
Turks and Caicos Islands	1
Mali	2
Brunei Darussalam	2
Mauritius	2
Morocco	1
Panama	2
Suriname	2



**Table A2.2.** Continued.

<u>Country</u>	<u>Group assignment</u>
Trinidad and Tobago	1
Chad	1
Cyprus	2
Democratic People's Republic of Korea	1
Guam	1
Liberia	2
Namibia	2
Pakistan	2
Qatar	2
Swaziland	2
Timor-Leste	1
Tonga	1
Unspecified	7
Greenland	2
Armenia	2
Libya	2
Niger	2
Senegal	2
Uzbekistan	2
Bahrain	2
El Salvador	4
Iraq	2
Oman	3
Seychelles	2
Yemen	2
Kyrgyzstan	2
Tajikistan	2
Botswana	3
New Caledonia	2
Samoa	2
Solomon Islands	2
Cabo Verde	2
Sao Tome and Principe	2
Macedonia	2
Montenegro	2
Maldives	1
Congo	2
Lesotho	2

**Table A2.2.** Continued.

<u>Country</u>	<u>Group assignment</u>
Myanmar	2
Iceland	2
Burundi	3
Rwanda	3
Laos	1
Azerbaijan	2
Turkmenistan	2
Bahamas	1
Barbados	1
Honduras	1
Saint Lucia	1

**Table A2.3.** Clique count by country for the soybean trade network in the year 2013.

<u>Country</u>	<u>Clique size (number of node members)</u>	
	<u>1</u>	<u>2</u>
Argentina	1	0
Bangladesh	1	0
Belgium	1	0
Bolivia	1	0
Brazil	1	0
Canada	0	1
China	0	1
Colombia	1	0
Costa.Rica	1	0
Egypt	1	0
France	1	0
Germany	1	0
Greece	1	0
Indonesia	1	0
Iran	1	0
Israel	1	0
Italy	1	0
Japan	1	0
Korea	1	0
Malaysia	1	0
Mexico	1	0
Netherlands	1	0
Norway	1	0
Paraguay	1	0
Peru	1	0
Portugal	1	0
Russian Federation	1	0
Saudi Arabia	1	0
Spain	1	0
Switzerland	1	0
Thailand	1	0
Tunisia	1	0
Turkey	1	0
Ukraine	1	0
United Arab Emirates	1	0
Unspecified	1	0
Uruguay	1	0

**Table A2.3.** Continued

<u>Country</u>	Clique size (number of node members)	
	1	2
Venezuela	1	0
Vietnam	1	0
Total cliques by size	38	2

**Table A2.4.** Clique count by country for the soybean trade network 1986-2013.

Country	Clique size (number of node members)					
	1	2	3	4	5	6
Algeria	1	0	0	0	0	0
Angola	1	0	0	0	0	0
Argentina	0	0	3	1	0	0
Armenia	1	0	0	0	0	0
Australia	0	0	1	0	0	0
Austria	0	1	1	2	6	0
Azerbaijan	1	0	0	0	0	0
Bahamas	1	0	0	0	0	0
Bahrain	1	0	0	0	0	0
Bangladesh	1	0	0	0	0	0
Barbados	1	0	0	0	0	0
Belarus	0	1	0	0	0	0
Belgium	0	0	1	0	2	1
Belize	1	0	0	0	0	0
Benin	0	1	0	0	0	0
Bolivia	0	0	1	0	0	0
Bosnia and Herzegovina	0	0	1	0	0	0
Botswana	1	0	0	0	0	0
Brazil	0	0	5	0	0	0
Brunei Darussalam	1	0	0	0	0	0
Bulgaria	1	0	0	0	0	0
Burkina Faso	1	0	0	0	0	0
Burundi	1	0	0	0	0	0
Cabo Verde	1	0	0	0	0	0
Cambodia	1	0	0	0	0	0
Cameroon	1	0	0	0	0	0
Canada	0	1	3	3	0	0
Chad	1	0	0	0	0	0
Chile	0	1	0	1	0	0
China	0	0	7	3	1	0
Colombia	0	1	0	0	0	0
Congo	1	0	0	0	0	0
Congo (DRC)	1	0	0	0	0	0
Costa Rica	0	1	0	0	0	0
Cote d Ivoire	1	0	0	0	0	0
Croatia	0	0	1	1	0	0
Cuba	1	0	0	0	0	0

**Table A2.4.** Continued

<u>Country</u>	Clique size (number of node members)					
	1	2	3	4	5	6
Cyprus	1	0	0	0	0	0
Czech Republic	0	0	1	1	1	0
Democratic People's Republic of Korea	1	0	0	0	0	0
Denmark	0	1	1	0	0	0
Ecuador	1	0	0	0	0	0
Egypt	0	1	0	0	0	0
El Salvador	1	0	0	0	0	0
Equatorial Guinea	1	0	0	0	0	0
Estonia	0	1	0	0	0	0
Ethiopia	1	0	0	0	0	0
Fiji	1	0	0	0	0	0
Finland	1	0	0	0	0	0
France	0	2	1	0	2	3
Gabon	1	0	0	0	0	0
Georgia	1	0	0	0	0	0
Germany	0	0	2	2	10	3
Ghana	1	0	0	0	0	0
Greece	0	1	0	0	0	0
Greenland	1	0	0	0	0	0
Guam	1	0	0	0	0	0
Guatemala	0	1	0	0	0	0
Guyana	1	0	0	0	0	0
Honduras	1	0	0	0	0	0
Hungary	0	0	0	0	5	0
Iceland	1	0	0	0	0	0
India	0	2	1	0	0	0
Indonesia	0	1	0	0	0	0
Iran	1	0	0	0	0	0
Iraq	1	0	0	0	0	0
Ireland	0	1	0	0	0	0
Israel	0	1	0	0	0	0
Italy	0	1	2	3	5	3
Jamaica	1	0	0	0	0	0
Japan	0	0	1	1	0	0
Jordan	1	0	0	0	0	0
Kazakhstan	0	1	0	0	0	0
Kenya	0	1	0	0	0	0

**Table A2.4.** Continued

<u>Country</u>	Clique size (number of node members)					
	1	2	3	4	5	6
Korea	0	0	0	2	0	0
Kuwait	1	0	0	0	0	0
Kyrgyzstan	1	0	0	0	0	0
Laos	1	0	0	0	0	0
Latvia	0	2	0	0	0	0
Lebanon	1	0	0	0	0	0
Lesotho	1	0	0	0	0	0
Liberia	1	0	0	0	0	0
Libya	1	0	0	0	0	0
Lithuania	0	2	0	0	0	0
Luxembourg	1	0	0	0	0	0
Macedonia	1	0	0	0	0	0
Malawi	0	1	0	0	0	0
Malaysia	0	1	2	0	0	0
Maldives	1	0	0	0	0	0
Mali	1	0	0	0	0	0
Malta	1	0	0	0	0	0
Mauritius	1	0	0	0	0	0
Mexico	0	1	0	0	0	0
Moldova Republic of	1	0	0	0	0	0
Montenegro	1	0	0	0	0	0
Morocco	1	0	0	0	0	0
Mozambique	1	0	0	0	0	0
Myanmar	1	0	0	0	0	0
Namibia	1	0	0	0	0	0
Nepal	1	0	0	0	0	0
Netherlands	0	0	0	0	4	3
New Caledonia	1	0	0	0	0	0
New Zealand	1	0	0	0	0	0
Nicaragua	1	0	0	0	0	0
Niger	1	0	0	0	0	0
Nigeria	1	0	0	0	0	0
Norway	1	0	0	0	0	0
Oman	1	0	0	0	0	0
Pakistan	1	0	0	0	0	0
Panama	1	0	0	0	0	0
Papua New Guinea	1	0	0	0	0	0

**Table A2.4.** Continued

<u>Country</u>	Clique size (number of node members)					
	1	2	3	4	5	6
Paraguay	0	0	2	0	0	0
Peru	0	1	0	0	0	0
Philippines	1	0	0	0	0	0
Poland	0	0	0	0	2	0
Portugal	0	1	0	0	0	0
Qatar	1	0	0	0	0	0
Romania	0	0	0	1	6	0
Russian Federation	0	2	1	0	0	0
Rwanda	1	0	0	0	0	0
Saint Lucia	1	0	0	0	0	0
Samoa	1	0	0	0	0	0
Sao Tome and Principe	1	0	0	0	0	0
Saudi Arabia	1	0	0	0	0	0
Senegal	1	0	0	0	0	0
Serbia	0	1	1	0	1	0
Seychelles	1	0	0	0	0	0
Singapore	0	0	2	0	0	0
Slovakia	0	0	0	0	4	0
Slovenia	0	0	0	1	0	0
Solomon Islands	1	0	0	0	0	0
South Africa	0	1	2	0	0	0
Spain	0	1	0	0	0	1
Sri Lanka	1	0	0	0	0	0
Suriname	1	0	0	0	0	0
Swaziland	1	0	0	0	0	0
Sweden	0	1	1	0	0	0
Switzerland	0	0	0	0	0	1
Syrian Arab Republic	1	0	0	0	0	0
Tajikistan	1	0	0	0	0	0
Tanzania	0	2	0	0	0	0
Thailand	0	0	0	1	0	0
Timor Leste	1	0	0	0	0	0
Togo	1	0	0	0	0	0
Tonga	1	0	0	0	0	0
Trinidad and Tobago	1	0	0	0	0	0
Tunisia	1	0	0	0	0	0
Turkey	0	0	1	0	0	0



**Table A2.4.** Continued

<u>Country</u>	Clique size (number of node members)					
	1	2	3	4	5	6
Turkmenistan	1	0	0	0	0	0
Turks and Caicos Islands	1	0	0	0	0	0
Uganda	0	1	0	0	0	0
Ukraine	0	1	1	0	0	0
United Arab Emirates	1	0	0	0	0	0
United Kingdom	0	1	3	0	1	3
United States	0	6	6	5	0	0
Unspecified	1	0	0	0	0	0
Uruguay	0	0	2	0	0	0
Uzbekistan	1	0	0	0	0	0
Venezuela	1	0	0	0	0	0
Viet Nam	1	0	0	0	0	0
Yemen	1	0	0	0	0	0
Zambia	0	2	0	0	0	0
Zimbabwe	1	0	0	0	0	0
Total cliques by size	101	25	19	7	10	3