

Annex 1 – Flow analysis - Which supply regions were successful to which destination regions?

South America is the most successful supply region to Europe. The region claims 3 of the top 6 positions in terms of supply region – destination region flows. It is the largest supplying region to Western Europe, Southern Europe, and Northern Europe. More information is in Table 1, which includes all supply-destination flows that were larger than 100 thousand tonnes in 2022.

Note that this selection is based on an analysis of exports to Europe from countries of the [OECD-DAC list](#).

Table 1: Supply regions to European destination regions, 2018-2022, in 1,000 tonnes of fresh fruit and vegetables

Flow	2018	2019	2020	2021	2022	Absolute growth '18-'22	CAGR '18-'22
From South America to Western Europe	2,400	2,318	2,213	2,567	2,297	-102.9	-1.1%
From Northern Africa to Western Europe	1,321	1,468	1,460	1,565	1,612	291.4	5.1%
From South America to Southern Europe	1,321	1,309	1,425	1,463	1,389	68.5	1.3%
From Central America to Western Europe	1,658	1,780	1,630	1,524	1,261	-396.8	-6.6%
From South America to Northern Europe	1,014	959	1,025	1,014	919	-95.0	-2.4%
From Southern Africa to Western Europe	842	790	769	827	880	38.3	1.1%
From Central America to Southern Europe	877	880	843	895	836	-40.9	-1.2%
From Central America to Northern Europe	816	867	840	859	796	-20.1	-0.6%
From Northern Africa to Southern Europe	640	787	807	762	753	112.8	4.1%
From Northern Africa to Northern Europe	395	437	438	537	559	164.5	9.1%
From Southern Africa to Northern Europe	455	421	465	495	496	41.6	2.2%
From Western Asia to Eastern Europe	398	348	442	531	495	97.2	5.6%
From South America to Eastern Europe	541	483	582	539	494	-46.8	-2.2%
From Western Africa to Western Europe	432	493	367	422	403	-29.2	-1.7%
From Western Asia to Western Europe	236	246	297	281	350	114.6	10.4%
From Central America to Eastern Europe	243	252	255	255	280	37.0	3.6%
From Southern Africa to Southern Europe	227	176	237	246	221	-6.0	-0.7%
From Caribbean to Western Europe	204	280	197	230	208	4.1	0.5%
From Western Africa to Southern Europe	122	129	121	137	170	48.0	8.6%
From Northern Africa to Eastern Europe	106	130	131	149	169	63.4	12.5%
From Southern Europe to Eastern Europe	151	219	193	150	159	8.1	1.3%
From Caribbean to Northern Europe	196	200	188	144	124	-71.7	-10.8%
From Western Africa to Northern Europe	143	116	105	111	119	-24.6	-4.6%
From Eastern Asia to Western Europe	124	139	130	95	112	-12.2	-2.6%
From Southern Asia to Western Europe	102	131	105	119	108	6.2	1.5%

Source: UNComtrade (July 2023)

Western Europe is also the largest destination region for exports from most of the other supplying regions. Exports to Western Europe are larger than to the other three destination regions combined, for the following supplying regions:

- Northern, Southern, Western, and Eastern Africa
- Eastern and Southern Asia.
- Caribbean.

South-Eastern Asia's exports to the other destination regions are even less than half of the exports to Western Europe. For Central Africa (exports to Eastern and Northern Europe are only 10-15% less) and Central America (Southern and Northern Europe are also important destination regions), Western Europe is a less dominant destination for exports.

For the few remaining supplying regions, the sequence is quite different:

- Central Asia's most important destination region is Northern Europe, followed by Eastern Europe.
- Eastern Europe exports more than 80% to Eastern Europe.
- Southern Europe mostly exports mostly to Eastern Europe and within the region.
- Western Asia exports more than 80% to Eastern and Western Europe.

The following flows had the highest growth (CAGR of more than 10%)

- From Southern Europe to Northern Europe
- From Eastern Europe to Western, Eastern, and Southern Europe
- From Eastern Africa to Southern and Eastern Europe
- From Middle Africa to Eastern and Northern Europe
- From Northern Africa to Eastern and Northern Europe
- From Caribbean to Southern Europe
- From Western Asia to Western Europe
- From Western Africa to Southern Europe.

Which products were most successful within these flows?

The following products / origin region and destination region combinations have been most successful in terms of exports to Europe in the period 2018-2022:

To Western Europe

Products from several regions

- Sweet potatoes from South America (+3.2 thousand tonnes), Northern Africa (+52 thousand tonnes), Southern Africa (+4.0 thousand tonnes), and Eastern Asia (+10 thousand tonnes).
- Watermelons from South America (+5.9 thousand tonnes) and Southern Asia (+1.3 thousand tonnes)
- Exotic fruits from Western Asia (+8.5 thousand tonnes), Northern Africa (+1.8 thousand tonnes), and Western Africa (+1.2 thousand tonnes)
- Plums and sloes from Southern Africa (+11 thousand tonnes), Eastern Europe - ex EU (+6.1 thousand tonnes), and Southern Europe (+4.8 thousand tonnes)
- Fruits of the genus Capsicum or Pimenta from Western Asia (+29 thousand tonnes) and Southern Europe (+1.6 thousand tonnes)
- Onions and shallots from Northern Africa (+4.6 thousand tonnes), Eastern Africa (+2.2 thousand tonnes) and Southern Asia (+0.8 thousand tonnes)

Products from a single region:

- From Western Asia: tomatoes (+42 thousand tonnes), vegetables (+7.0 thousand tonnes), cucumbers and gherkins (+6.6 thousand tonnes)
- From Northern Africa: dates (+14 thousand tonnes), cabbage lettuce (+1.3 thousand tonnes)
- From Southern Africa: carrots and turnips (+4.2 thousand tonnes), melons (+1.3 thousand tonnes)
- From South America: blueberries and other fruits of the genus Vaccinium (+55 thousand tonnes)
- From Caribbean: bananas and plantains (+8.1 thousand tonnes)
- From Western Africa: vegetables (+1.5 thousand tonnes)

To Southern Europe

Products from several regions

- Bananas and plantains from Western Africa (+37 thousand tonnes) and Caribbean (+5.1 thousand tonnes)
- Papayas from Central America (+0.8 thousand tonnes) and Southern Africa (+0.6 thousand tonnes)
- Mandarins, clementines, and similar citrus hybrids from South America (+3.0 thousand tonnes) and Western Asia (+3.6 thousand tonnes)
- Arrowroot, salep, Jerusalem artichokes and similar roots and tubers from Western Africa (+0.7 thousand tonnes) and South America (+0.4 thousand tonnes)
- Potatoes from Northern Africa (+33 thousand tonnes) and Southern Europe (+1.0 thousand tonnes)
- Pineapples from Western Africa (+3.1 thousand tonnes) and Eastern Africa (+0.3 thousand tonnes)
- Vegetables from Southern Africa (+4.7 thousand tonnes), Southern Europe (+1.5 thousand tonnes), and South-Eastern Asia (+0.1 thousand tonnes)

Products from a single region:

- From South America: grapes (+11 thousand tonnes)
- From Western Asia: oranges (+0.2 thousand tonnes)
- From Southern Europe: cabbages, kohlrabi, kale and similar edible brassicas (+3.2 thousand tonnes), cucumbers and gherkins (+3.9 thousand tonnes)
- From Western Africa: onions and shallots (+5.4 thousand tonnes), tomatoes (+0.4 thousand tonnes), melons from Western Africa (+1.0 thousand tonnes)
- From Eastern Asia: garlic (+2.9 thousand tonnes)
- From Eastern Europe: apples (+0.3 thousand tonnes)
- From Southern Asia: dates (+0.2 thousand tonnes)
- From Northern Africa: peaches and nectarines (+0.3 thousand tonnes)

To Northern Europe

Products from several regions

- Watermelons from South America (+12 thousand tonnes), Central America (+7.3 thousand tonnes), and Southern Europe (+7.2 thousand tonnes).
- Onions and shallots from Northern Africa (+7.5 thousand tonnes), Southern Africa (+4.0 thousand tonnes), and South America (+0.2 thousand tonnes)
- Guavas, mangoes and mangosteens from Caribbean (+4.1 thousand tonnes), Central America (+0.6 thousand tonnes), and Southern Africa (+0.9 thousand tonnes)
- Coconuts from Western Africa (+1.5 thousand tonnes) and Central America (+0.8 thousand tonnes)
- Vegetables from Eastern Africa (+2.6 thousand tonnes) and Northern Africa (+5.9 thousand tonnes)
- Exotic fruits from Southern Africa (+2.1 thousand tonnes) and Southern Asia (+0.5 thousand tonnes)
- Arrowroot, salep, Jerusalem artichokes and similar roots and tubers from Central America (+2.9 thousand tonnes), Eastern Asia (+1.4 thousand tonnes), and Western Africa (+0.5 thousand tonnes)
- Peaches and nectarines from Northern Africa (+0.8 thousand tonnes) and Western Asia (+2.7 thousand tonnes)

Products from a single region:

- From Middle Africa: bananas and plantains (+20 thousand tonnes)
- From Northern Africa: tomatoes (+95 thousand tonnes), beans "Vigna spp., Phaseolus spp." (+6.7 thousand tonnes), strawberries (+14 thousand tonnes), raspberries (+14 thousand tonnes), leguminous vegetables (+3.9 thousand tonnes), cucumbers and gherkins (+4.7 thousand tonnes), cauliflowers and headed broccoli (+1.3 thousand tonnes), and salad beetroot, salsify, celeriac, radishes and similar edible roots (+0.3 thousand tonnes)
- From Southern Europe: cabbages, kohlrabi, kale and similar edible brassicas (+4.7 thousand tonnes), and cherries (+0.3 thousand tonnes)
- From South America: sweet potatoes (+2.5 thousand tonnes)

To Eastern Europe

Products from several regions

- Bananas and plantains from Central America (+42 thousand tonnes) and Middle Africa (+22 thousand tonnes)
- Mandarins, clementines, and similar citrus hybrids from Northern Africa (+3.8 thousand tonnes) and Eastern Asia (+0.6 thousand tonnes)
- Vegetables from Southern Asia (+0.5 thousand tonnes) and Central America (+0.5 thousand tonnes)
- Grapes from Southern Asia (+7 thousand tonnes) and Northern Africa (+2.7 thousand tonnes)

Products from a single region:

- From Northern Africa: oranges (+4.9 thousand tonnes), beans "Vigna spp., Phaseolus spp." (+0.2 thousand tonnes), melons (+0.1 thousand tonnes), lettuce (+0.5 thousand tonnes), cabbages, kohlrabi, kale and similar edible brassicas (+0.1 thousand tonnes)
- From Southern Europe: apples (+21 thousand tonnes)
- From Central America: avocados (+0.2 thousand tonnes), onions and shallots (+0.2 thousand tonnes), watermelons (+1.2 thousand tonnes), fruits of the genus Capsicum or Pimenta (+0.9 thousand tonnes)
- from Western Asia: carrots and turnips (+11 thousand tonnes), and cherries (+0.2 thousand tonnes)
- from Southern Africa: pears and quinces (+2.3 thousand tonnes)
- from South-Eastern Asia: pineapples (+0.1 thousand tonnes) and guavas, mangoes and mangosteens (+0.2 thousand tonnes)

Which products from developing countries performed the best overall?

If the flow to the several regions is analysed, the following products **coming from more than four regions** had the best growth:

- Watermelons from Northern Africa, Western Asia, Southern Europe, Central Asia.
- Mandarins, clementines, and similar citrus hybrids from Southern Africa, Southern Europe, Eastern Asia, and Southern Asia.
- Sweet potatoes from Northern Africa, Eastern Asia, Southern Africa, South America, Eastern Africa, South-Eastern Asia
- Blueberries and other fruits of the genus Vaccinium from South America, Northern Africa, Southern Africa, Southern Europe, and Eastern Europe.
- Cucumbers and gherkins from Western Asia, Northern Africa, Eastern Europe, and Central America.
- Onions and shallots from Western, Southern, and Eastern Africa, and Southern Europe
- Arrowroot, salep, Jerusalem artichokes and similar roots and tubers from Central America, Southern Asia, Eastern Africa, and Western Asia

The following products **coming from three regions** had the best growth:

- Tomatoes from Northern Africa, Western Asia, and Central America
- Avocados from Northern Africa, Eastern Africa, and Caribbean.

- Peaches and nectarines from Southern Africa, Western Asia, and Southern Europe
- Aubergines from Western Asia, and Northern and Western Africa
- Exotic fruits from Western Africa, Central Africa, and Southern Europe

The following products **coming from two regions from two continents** had the best growth:

Of which fruit:

- Fruits of the genus Capsicum or Pimenta from Western Asia and Central America
- Plums and sloes from Eastern Europe and Western Asia
- Kiwifruit from Western Asia and Southern Africa
- Dates from South America and Eastern Asia
- Cherries from Southern Africa and Eastern Europe
- Papayas from Central America and Southern Africa

Of which vegetables:

- Cassava from Western Africa
- Carrots and turnips from Southern Africa and Eastern Europe
- Leeks and other alliaceous vegetables from Northern Africa and Central America
- Garlic from Northern Africa and Western Asia
- Vegetables from Southern Europe and Central Asia
- Beans "Vigna spp., Phaseolus spp." from Western Asia and South America
- Cauliflowers and headed broccolis from Northern Africa and Western Asia

Products that had strong growth for imports **from two regions of one continent** were the following fruits:

- Apples from Southern and Eastern Europe
- Bananas and plantains from Southern and Eastern Africa
- Apricots from Southern and Eastern Europe
- Guavas, mangoes and mangosteens from Northern and Eastern Africa

Products that had strong growth for imports **from one region** were the following:

Of which fruit:

- Oranges from Northern Africa
- Grapes from Eastern Europe
- Melons from Western Asia
- Pears and quinces from Western Asia
- Strawberries from Eastern Europe
- Durians from South-Eastern Asia

Of which vegetables:

- Leguminous vegetables from Northern Africa
- Cabbages, kohlrabi, kale and similar edible brassicas from Western Asia
- Peas "Pisum sativum", shelled or unshelled from Northern Africa
- Edible mushrooms and truffles from Eastern Asia
- Brussels sprouts from Northern Africa
- Asparagus from Eastern Asia
- Cabbage lettuce from Western Asia
- Salad beetroot, salsify, celeriac, radishes and similar edible roots from Western Asia