Multilateral or Regional Agreement: The Case of Mediterranean Countries

Efthimia Tsakiridou
Lecturer, Department of Agricultural Development, Democritus University of Thrace, Greece

Kostadinos Mattas
Professor, Department of Agricultural Economics, Aristotle University of Thessaloniki, Greece

Agapi Somwaru
Senior Agricultural Economist, Economic Research Service, U.S.A.

Corresponding author:

Prof. Konstantinos Mattas
Aristotle University of Thessaloniki
School of Agriculture
Dept. of Agricultural Economics
P.O. Box 225, 541 24, Thessaloniki, Greece
Tel.: +302310998807
Fax: +302310998828
Email: mattas@auth.gr

Abstract

Middle East and North Africa (MENA) countries today stand at a crossroad regarding potential trade reform options. The EU is not only the world's largest market for the region's agricultural products but it also remains the prime outlet for these Mediterranean countries' exports. An applied general equilibrium model is used to assess the impact of possible various trade reform options in the region. The model results suggest that the region might benefit the most under special provisions for developing countries while under global trade reform MENA preferences with EU might be eroded. EU Mediterranean countries, like Greece, benefit the most with global trade reform.

Key words: trade reform options, preferences, MENA countries.

Multilateral or Regional Agreement: The Case of Mediterranean Countries

1. Introduction

The twelve Mediterranean non-EU countries (Turkey, Morocco, Algeria, Tunisia, Egypt, Lebanon, Libya, Syria, Israel, Gaza Strip and West Bank, and Jordan) share certain common cultural and economic characteristics. Due to their climatic conditions, they have a common pattern: they produce similar agricultural commodities, especially fruits, vegetables, and olive oil. The EU is not only the world's largest market for agricultural products, but it also remains the prime outlet for these Mediterranean countries' exports particularly fruits and vegetables.

The purpose of this study is to assess the likely impacts of possible trade reform options for the twelve Mediterranean non-EU (MENA) countries' agricultural and food processing sectors from a static-snapshot perspective. The short to medium-run effects of policy options (static approach) on well-being can depart from the long-run effects as changes in the longer run pattern of investment and capital accumulation that reform induces are excluded. We have chosen to analyze the case of a profound policy reform option, i.e., the elimination of trade protection using a global model. A global analysis of this type provides insights into various agricultural trade options and indicates what the greatest potential effects on these Mediterranean countries would be, both positive and negative.

To understand the effects of the various policy options, we chose the following scenarios: (1) global trade reform throughout the world (multilateral case); (2) trade reform between EU and MENA only (bilateral case) or regional agreement option; and (3) special and differential treatment (S&D) of MENA agricultural and food processing products, i.e., safeguard option globally to help developing countries avoid pressures to make tariff concessions. In scenario three, MENA agricultural exports face no trade barriers but MENA countries maintain their barriers to agricultural imported goods (non-reciprocity).

In the next section we present the methodology and data used. In section 3, we present the results of global multilateral trade reforms in an attempt to capture the benefits from globally removing trade barriers. Section 4 presents the impact in the region if MENA and EU follow bilateral negotiations for complete trade reforms. In section 5, taking into account MENA countries' state of economic development, we allow all regions of the world to provide special and differential treatment regarding the region's trade flows. Final remarks conclude the paper.

2. Methodology and data

The analysis is based on (1998) levels of applied agricultural tariffs, domestic support and export subsides, and the use of tariff rate quotas. Caveats need to be noted. First, tariff rates and tariff equivalent rates are based on the data in 1998. Since tariff reductions have been undertaken by many countries after 1998, and since the bound rates are much higher than the applied rates in many cases, our analysis may overestimate the extent of tariff reduction that would take effect after 2000 for some countries. Our analysis in this situation may overestimate the extent of all import barriers.

A global computable general equilibrium model (CGE) is developed (Diao et al. 2001, 2002) and utilizes the GTAP global database (1997). The model is global in the sense that all regions of the world are included, and production and consumption decisions in each region follow behavior that is consistent with economic theory. Trade flows among regions are multilateral and world prices are determined by world market clearing conditions or, in other words, excess demand for each commodity in the world is zero. The general equilibrium feature of the model means that resources can move among sectors, thereby ensuring that adjustments in the livestock sector, for example, are consistent with adjustments in the feed grains sector.

The assumption that labor and capital are mobile between agriculture and the non-agricultural sectors of an economy is introduced. Relaxing this assumption would slow

the supply response from countries having a comparative advantage in world agricultural markets which may cause world agricultural prices to rise more than predicted by our analysis. Moreover, we assume that labor is fully employed. This assumption places upward pressure on prices since, if rural unemployed labor is available (which is likely in developing countries), supply response can occur at a lower cost.

A "base" scenario was developed initially to represent a stylized view of agricultural production and trade in the world under current trade policies. First, a global trade reform scenario was simulated (scenario-1). In this scenario, all tariffs and export subsidies on agricultural imports are eliminated, while other agricultural policies remain unchanged. Countries would be affected differently as some are net exporters of agricultural goods, others are net importers. Also, the composition of agricultural exports/imports tends to vary among countries. Second, the European Union (EU) and MENA adopt trade reform (scenario-2) bilaterally by establishing a regional trade agreement. In this scenario, we contrast the benefits/loss with global trade reform. Finally, MENA is treated specially and differentially (S&D) under the provisions in the Agreement on Agriculture (AoA) for developing countries. In this scenario (scenario-3), MENA trade policies remain in place while MENA does not make tariff concessions given the region's economic development status. Implementation of S&D would allow MENA industrial development and export promotion efforts.

We use four indicators to assess the effects of agricultural liberalization on the world economy, as well as on each country/region. These are: (a) changes in world agricultural prices, (b) changes in world agricultural trade, (c) changes in a country's exports and imports, and (d) changes in a measure of social well-being or welfare and gross domestic product.

An analysis of this type would provide insights into the costs of agricultural policy distortions and suggest potential impacts on the countries in the study, both positive and negative. Also, insights into the potential benefits of the various options of agricultural trade reform are gained.

3. Global Trade Reform

If we eliminate all tariffs on agricultural imports and subsidies on agricultural exports worldwide, the results suggest that the level of world agricultural prices rise by 11.6 percent relative to the level of world non-agricultural prices (fig. 1). Results about the world price effect of worldwide agricultural liberalization are obtained without accounting for investment response. Restricting imports causes, in many *import-protecting* countries, domestic consumers to face food prices that are higher than world prices while at the same time inducing these countries to employ too many resources in agriculture. When import tariffs are eliminated, the demand for agricultural imported goods can rise while domestic supply contracts, thus placing upward pressure on world agricultural prices. This upward pressure in turn induces agricultural exporting countries to increase production. Worldwide agricultural production increases by 1.15 percent while trade flows in value and volume increase by 40 and 23 percent, respectively.

From a world perspective, the more efficient allocation of resources yields higher global welfare. Typically, in a country with a high degree of agricultural trade protection, consumers pay relatively high prices for food and other agricultural goods, and/or their disposable income is taxed to cover the costs of agricultural policies. Removing trade protection is expected to benefit consumers. However, from the global perspective, and especially when the world price is affected by agricultural liberalization, the welfare effect varies across countries.

The well-accepted equivalent variation (often referred to as the willingness to pay) is used to measure the social welfare gains or losses due to agricultural liberalization. One-time welfare effects are considered. The one-time effects are measured by using the status-quo (pre-reform) prices as the base, and address the question: what income would be equivalent to the change brought about by agricultural liberalization (see Varian,

5

1984). The welfare effects over time are measured by summing the discounted value of this measure over time.

The results of our analysis of the welfare effects of trade reform suggest that consumers can be worse off if the country's terms of trade deteriorate following liberalization. That is, if the prices of the goods they export fall relative to the prices of goods they import, then consumers can be adversely affected since their expenditures on imported goods increase while their income from exported goods falls. As table 1 shows, most countries experience an increase in welfare measured by changes in GDP and equivalent variation that accounts for the social welfare gains or losses due to agricultural trade liberalization. EU has granted special trade preferences to MENA countries. Under scenario-1 the negative effect of global trade reform on MENA welfare is mainly caused by erosion in the preferential treatment by EU countries. After worldwide reform, MENA countries as a trade block may experience a welfare loss because they suffer a decline in demand for agricultural goods that would have been exported to EU countries. In other words, MENA countries will experience deterioration in their terms of trade as a result of global reform in the agricultural sector (namely, net importers of agricultural products). Consequently, MENA countries may lose market share as a result of an erosion in their trade preferences, especially in the EU market.

Since trade liberalization enhances trade, growth in agriculture trade is expected worldwide. Indeed, model results indicate that world agricultural trade increases substantially after liberalization. Removal of all agricultural trade protection worldwide results in an increase in the value of world agricultural trade by 40 percent.

Trade flows by country/region will be substantially influenced by removing all agricultural trade distortions (scenario-1) as provided in table 2. Australia, New Zealand, the EU, the U.S., and Japan will benefit the most from export growth. Value changes in exports will reach almost fifty percent for the EU and the U.S. MENA exports will rise by 29.57 percent while those of Greece will increase by 10.98 percent. Changes in

agricultural import values depict a very different story from that of exports as the highest increase in imports occurs in MENA countries, followed by Japan and the EU.

As the paper focuses on MENA countries, table 3 presents changes in commodity trade flow for twelve agricultural commodity/aggregates. We also focus on Greece since it produces many similar agricultural products, and represents a country that has been a part of the EU since 1981. For MENA countries, vegetables, fruits, and olive oil products are of paramount importance and changes in exports / imports in those sectors would play a significant role in the agricultural economy of the MENA region.

Detailed changes in trade flows, both in value and volume, by commodity/commodity group are presented in table 3 (first column). Under scenario-1 (total removal of trade distortions) exports and imports of vegetables and fruits, in value terms, increase by 28 and 148 percent, respectively. Almost the same pattern is followed by olive oil products where the increase in imports counterbalances to some degree any increase in exports. Overall, under scenario-1, MENA countries are facing trade diversion as its preferences by the EU are eroded.

4. EU and MENA: A Regional Trade Agreement

Economists usually classify regional or bilateral agreements as "trade creating" and/or "trade diverting." Trade creation occurs if the agreement permits efficient producers in one member country to sell into a previously protected neighboring market without affecting the exports of more efficient non-members. When trade-creating liberalization occurs, capital and other factors of production are reallocated toward more efficient uses, raising the returns to those factors and improving the overall economic welfare of members. Countries outside a trade-creating agreement could benefit as well, if the efficiency and welfare gains in member countries generate trade and growth opportunities for non-members. A trade-diverting agreement, on the other hand, causes importers to switch from more efficient suppliers outside of the agreement to less efficient suppliers

within the agreement, distorting the allocation of resources and directly harming non-members.

MENA is expected to gain from the trade-creating effects of a regional agreement with the EU. Factors of production would be reallocated within the MENA economy toward the more competitive sectors as producers take advantage of the new export opportunities and as imports rise to challenge the less competitive sectors. The less competitive sectors of the MENA economies would decline, but gains in the competitive sectors would more than offset those losses.

Under this scenario world prices of agricultural products increase by 4.2 percent while worldwide trade in value and volume increases by 1.46 and 0.92, respectively. As expected, welfare of the countries/regions in the agreement, that is EU and MENA, would increase minimally. MENA and EU trade flows increase both in value and volume, that is trade creation, while trade diversion may result in the countries/regions outside the agreement (see table 2, second column). In this scenario, exports in vegetables and fruits are growing at a faster pace than imports. Similarly, olive oil products and food processing products would benefit the most under the option of a regional agreement between MENA and the EU.

5. MENA: S&D Treatment

The Uruguay Round Agreements contain special provisions for developing countries that grant them, among other things, long and gradual phase-in periods for their commitments and fewer obligations in some sectors. As a consequence, and in order to glean the full benefits from trade openness or trade reform, MENA countries can take advantage of the market access provisions and adopt adjustments designed to improve their supply response.   The trade impact of the reductions in tariff levels on the exports of any one individual MENA country depends on the treatment granted to its products by the importing countries.

In order to evaluate the impact of export potential of MENA countries, under scenario-3, we allow MENA exports to face duty-free trade status. As expected under this scenario, exports of MENA agricultural products are induced. Tables 2 and 3 reveal that MENA countries' trade flows increase the most under this scenario. MENA exports (value) would increase by 35.10 percent and imports by 25.19 percent. In other words, S&D treatment in the case of MENA induces more trade and, by inducing exports stimulates overall economic growth in the region.

Under this scenario, changes in world prices and agricultural production are minimal while all counties/regions in the model experience small but positive gains in welfare (fig. 1 and table 1).

6. Concluding remarks

In this paper we used a Global CGE model to trace out probable impacts of alternative trade liberalization options in MENA countries. A "base" scenario was developed initially to represent a stylized view of agricultural production and trade in the world under current trade policies. Then a global trade reform scenario was simulated where all tariffs on agricultural imports and all export subsidies are eliminated. This scenario is followed by a regional trade agreement between the EU and MENA (or the case of bilateral trade reform). Finally, the last scenario represents the case where MENA is treated under special and differential arrangements.

Trade flows are impacted, as expected, substantially for all countries/regions in scenario 1, while scenario-2 and -3 enhances MENA trade flows. Removal of all trade barriers (scenario-1) might cause trade diversion for MENA countries by eroding its EU trade preferences.

Finally, the model's results capture changes in export/import flows for the commodities in the model. Given that the most important agricultural commodities for MENA countries are vegetables and fruits, and olive oil products, changes regarding these

commodities would greatly impact the MENA agricultural economy. As a result the model indicates that both scenarios 2 and 3 lead to be more favorable outcomes for MENA countries in a comparative static medium-run framework. While not analyzed in these medium-run scenarios, in the long-run, however, the region would benefit the most under complete trade reform as the reforms would induce reallocation of resources in the most efficient sectors and consequently increase the region's competitiveness.

References

Diao, X., T. Roe , and A. Somwaru, (2002) "Developing Country Interests in Agricultural Reforms Under the World Trade Organization," Amer. J. Agr. Econ. (84), August:782-790.

Diao, X., A. Somwaru, and T. Roe (2001) "A Global Analysis of Agricultural Reform in WTO Member Countries," in Agricultural Policy Reform in the WTO: The Road Ahead, USDA/ERS Agricultural Economic Report No. 802:25-40.

McDougall, R., A. Elbehri, and T. Truong (1998) Global Trade, Assistance, and Protection: The GTAP 4 Data Base. Center for Global Trade Analysis, Purdue University. West Lafayette, IN.

Varian, Hal R. (1984) *Microeconomic Analysis*, Second Edition, New York and London: W.W. Norton & Company.

Fig. 1 World prices and production under alternative trade reform

Soucrce: model results
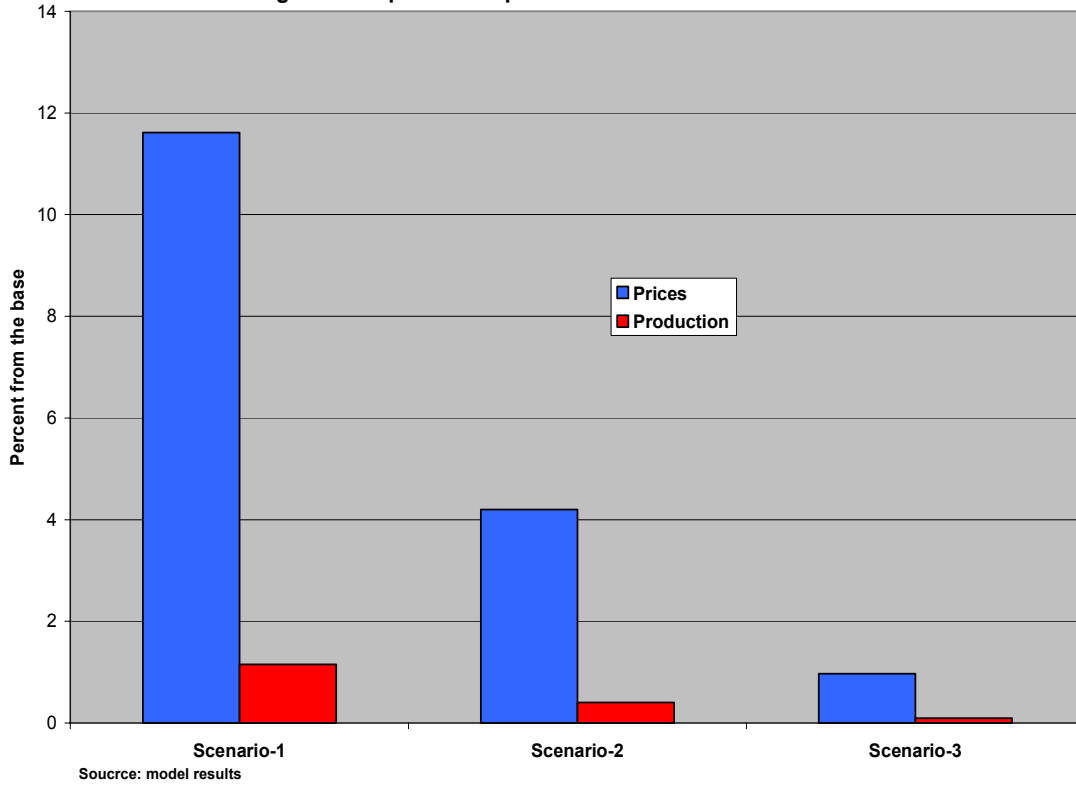
Table 1. MENA trade liberalization options: impacts on world production, GDP, and werfare

	Scenario-1 Complete trade reform globally	Scenario-2 Regional agreement EU 15 and MENA	Scenario-3 MENA:S&D treament
	% change from the base		
World trade value	39.73	1.46	3.34
World trade volume	23.32	0.92	2.12
GDP (real terms)			
Australia/New Zealand	0.53	0	0.02
Japan	0.09	0	0.00
United States	0.04	0	0.00
EU (exluding Greece)	0.08	0	0.00
Greece	0.09	0.01	0.00
MENA	-0.74	0	-0.01
Rest of the Americas	0.14	0	0.01
Rest of the World	-0.06	0	0.00
Welfare			
Australia/New Zealand	0.6783	-0.0033	0.03
Japan	0.2914	0.0005	0.00
United States	0.0429	-0.0004	0.00
EU (exluding Greece)	0.137	0.0094	0.01
Greece	0.1144	0.0095	0.01
MENA	-0.1514	0.1239	0.28
Rest of the Americas	0.2285	-0.0027	0.01
Rest of the World	0.1673	-0.0013	0.01

Table 2. MENA trade liberalization options: impacts on trade flows by

	Scenario-1 Complete trade reform globally	Scenario-2 Regional agreement EU 15 and MENA	Scenario-3 MENA:S&P treament
	% change from the base		
Exports in value			
Australia/New Zealand	57.69	-0.21	2.26
Japan	35.65	-0.09	0.70
United States	44.78	-0.18	2.02
EU (exluding Greece)	44.58	5.13	4.32
Greece	10.98	1.50	0.86
MENA	29.57	16.26	35.10
Rest of the Americas	32.08	-0.23	1.65
Rest of the World	34.50	-0.28	1.48
Exports in volume			
Australia/New Zealand	35.14	-0.15	1.51
Japan	28.18	-0.06	0.47
United States	27.32	-0.12	1.29
EU (exluding Greece)	22.72	3.25	2.77
Greece	5.79	0.94	0.55
MENA	20.06	10.25	22.17
Rest of the Americas	18.97	-0.15	1.00
Rest of the World	21.34	-0.19	0.94
Imports (values)			
Australia/New Zealand	18.69	-0.03	0.53
Japan	58.85	0.00	0.86
United States	16.66	0.00	0.40
EU (exluding Greece)	29.68	2.06	2.01
Greece	6.03	0.53	0.48
MENA	67.16	10.68	25.19
Rest of the Americas	31.84	-0.02	0.35
Rest of the World	45.95	0.01	1.16
Imports (volume)			
Australia/New Zealand	11.72	-0.02	0.36
Japan	34.41	0.00	0.49
United States	10.23	0.00	0.24
EU (exluding Greece)	18.03	1.29	1.28
Greece	3.74	0.36	0.34
MENA	36.20	6.69	16.05
Rest of the Americas	19.70	-0.01	0.25
Rest of the World	27.01	0.01	0.75

Table 3. MENA trade liberalization options: commodity trade flows

	Scenario-1		Scenario-2		Scenario-3	
			% change from the base			
	MENA	Greece	MENA	Greece	MENA	Greece
Exports- value						
Food grains	92.96	4.55	39.07	0.12	137.97	0.03
Feed Grains	35.71	6.04	26.67	-0.32	46.38	-0.29
Vegetables&Fruits	27.89	10.07	17.64	3.60	32.28	3.49
Oilseeds*	10.17	0.30	0.27	0.19	18.87	0.04
Other crops	14.89	1.96	1.95	0.15	16.81	0.24
Cattle	42.81	14.80	34.01	-0.02	54.65	-0.10
Other animals	15.88	2.88	8.65	-0.04	17.48	-0.09
Processed meat	70.40	16.65	50.85	0.18	79.79	0.10
Other processed meat	107.55	0.53	21.16	0.03	128.84	-0.03
Processed Oil	14.24	8.11	13.24	-0.02	18.66	-0.04
Other processed food	41.40	6.34	23.59	0.81	49.04	0.76
Beverages&tobacco	16.18	-0.35	5.12	-0.13	22.18	-0.18
Finshering	1.05	0.30	0.24	0.08	0.37	0.01
Non agricultural	1.23	0.10	0.15	0.07	0.36	0.00
Exports-volume						
Food grains	47.35	0.92	21.85	0.18	65.96	0.10
Feed Grains	21.09	2.94	15.45	-0.14	26.54	-0.13
Vegetables&Fruits	18.24	5.82	11.41	2.18	20.47	2.11
Oilseeds*	4.79	0.96	0.34	0.13	10.84	0.02
Other crops	11.41	1.24	1.43	0.11	11.60	0.17
Cattle	27.28	7.62	20.45	-0.10	31.77	-0.15
Other animals	12.83	2.96	5.92	0.05	12.15	0.02
Processed meat	41.36	8.72	28.33	0.29	45.97	0.25
Other processed meat	54.59	0.97	12.04	0.07	67.71	0.05
Processed Oil	11.26	5.92	9.06	-0.03	12.96	-0.01
Other processed food	28.67	4.20	14.48	0.51	31.08	0.50
Beverages&tobacco	7.45	0.41	2.77	-0.08	12.68	-0.10
Finshering	2.27	0.67	0.26	0.05	0.61	0.08
Non agricultural	2.98	0.30	0.26	0.04	0.68	0.03
Imports-value						
Food grains	53.29	-9.45	3.18	0.59	22.38	0.32
Feed Grains	33.22	11.76	3.53	8.38	16.74	6.17
Vegetables&Fruits	148.43	10.74	9.89	0.02	46.25	-0.14
Oilseeds*	30.80	7.49	0.37	7.69	14.43	4.92
Other crops	23.04	4.85	1.57	0.83	11.00	-0.66
Cattle	76.18	-4.26	15.55	-0.31	29.80	-0.59
Other animals	21.40	3.65	6.14	1.97	10.95	1.50
Processed meat	145.49	7.48	18.04	1.06	47.17	0.92
Other processed meat	117.34	16.71	19.61	0.70	37.29	0.40
Processed Oil	28.30	0.41	2.09	0.54	13.03	0.20
Other processed food	63.54	12.85	17.44	1.35	26.57	1.13
Beverages&tobacco	210.95	47.47	25.58	7.20	56.55	6.27
Finshering	-5.21	-0.02	-0.45	0.10	-1.03	0.11
Non agricultural	-4.72	-0.34	-0.39	-0.02	-1.04	-0.04
Imports-volume						
Food grains	35.14	-8.42	2.03	0.45	14.64	0.28
Feed Grains	15.73	-8.07	2.28	5.86	10.84	4.37
Vegetables&Fruits	81.13	6.42	6.08	-0.12	28.65	-0.17
Oilseeds*	20.09	4.35	0.23	4.87	9.39	3.18
Other crops	14.16	3.25	0.99	0.56	7.13	-0.46
Cattle	44.75	-3.31	9.68	-0.19	18.95	-0.33
Other animals	14.40	2.95	4.05	1.33	7.22	1.06
Processed meat	73.28	-4.90	11.33	0.64	29.53	0.60
Other processed meat	65.46	8.61	12.00	0.46	23.53	0.31
Processed Oil	19.29	-0.02	1.29	0.39	8.54	0.18
Other processed food	29.69	5.41	11.01	0.90	16.98	0.78
Beverages&tobacco	112.81	28.04	15.50	4.41	34.79	3.92
Finshering	-3.38	-0.05	-0.33	0.02	-0.70	0.08
Non agricultural	-3.24	-0.23	-0.29	-0.05	-0.72	-0.02

*Oilseeds includes: soybeans, olives and other oil producing crops.