



Development Action Plan

36th International Vegetable Training Course
Module 2:Vegetables: From Harvest to Table
from 6 November to 1 December 2017





Personal information

Name: Mariam Al JAMMAL

Nationality: Lebanese

Education: Agricultural engineer

Specialization: Agro-Economy and Sustainable Development

+ Master 2: Territorial Development and Projects DTP

Work:

- **Basic:** Lebanese Agriculture Research Institute LARI

- **Current:** Ministry of Agriculture



Mains work responsibilities:

- Inspecting:
 - In small agricultural properties and nurseries.
 - In agricultural pharmacies.
- Member of committee for receiving, evaluating and check up of quality of wheat crop.





Lebanon



- Capital: Beirut
- Country area: 10,452 km²
- Land area: 10230 km²
- Agricultural area: 6,580 km²
- Forest: 1,372.2 km²
- Population: 6,086,905 => 0.08% of the total world population.
- Percent of rural population: 12%
- GDP: \$53.92 billion USD (2017)
- Agriculture GDP: 7%
- Climate: Mediterranean



Cultivated crop

Governorate	Cereals	Fruit Trees	Olives	Vegetables
Mount Lebanon	3,140	97,820	77,678	31,100
North	120,380	135,685	209,628	128,584
Beqaa	297,737	217,570	31,443	259,743
South	37,638	123,304	89,340	20,753
Nabatiyeh	59,525	20,768	116,124	12,141
Total	518,420	595,147	524,213	452,321

North and Beqaa is the most cultivated area



Most 3 useful TOPICS:

- ✓ **Chemical residue analysis in vegetables**
- ✓ **Quality and standards controls**
- ✓ **Market assessment and market information system**





Minimizing pesticide residues in fruits and vegetables to safeguard human health

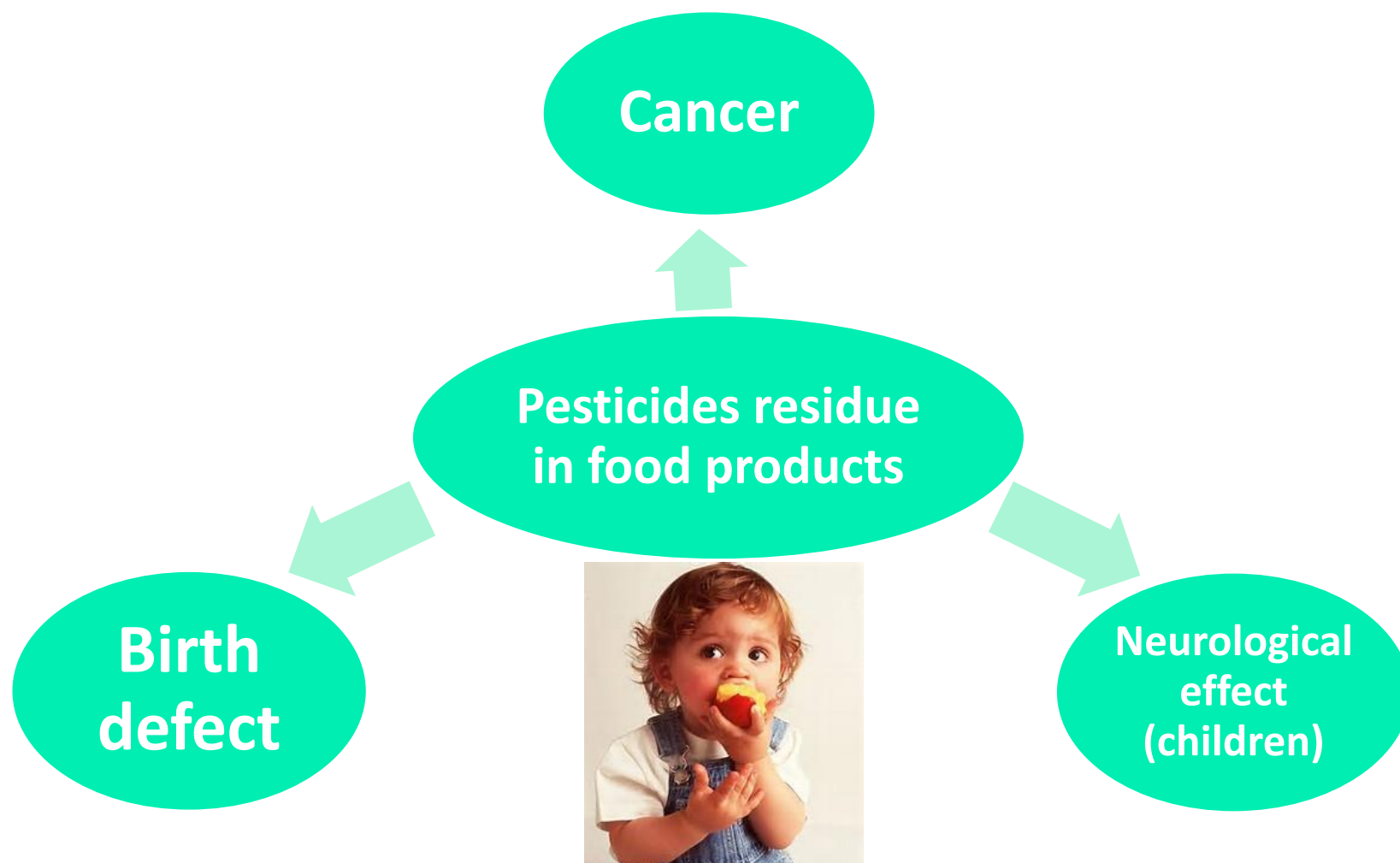


Principal problems in Fruits and vegetables in Lebanon

- Pesticides persist on local produce.
- Farmers spraying too often pesticides.
- No effective monitoring programs to ensure the safety of local produce on the market.
- Products “BIO” are so expensive.
- Farmers harvesting produce too quickly after spraying pesticides.
- Monitoring of produce for exportation not for local market.
- Lack of education and training for farmers.



Relation between pesticides residue and human diseases





Washing ≠ Safe

Washing F & V can eliminate



Contact
pesticides



But



Systemic
Pesticides



PERSIST





Problematic:

Are our vegetables safe from pesticides residue?





Objectives:

- **Reduce pesticides residuals persisting after harvest**
- **Aware farmers about the suitable time of harvest after spraying pesticides in order to reduce the high level of chemicals residue.**
- **Increase the income and profit of farmers.**
- **Ensure healthy F & V for consumers.**





Who is beneficiaries?



- **Farmers**
- **Consumers**





Method

Activity	Input	Time	Location
Sampling	-F&V sample - Personnel	Jan 2018 - Jan 2020	Local market, cultivated lands, supermarkets, small shops, cooling storage
Experimentation: Testing the quantity of residues of pesticide	-Lab staff - Lab equipment - Materials/kits	Jan 2018 - Jan 2020	—
Research: 1- On quantity and quality of pesticides tolerance that not affect human health 2- Comparing results with international standards (Norm)	-Researcher - Extension agents	Feb 2018 - May 2018	—
Inspection and check up: Creation and distribution of label design	-Personnel	Jan 2018 - Jan 2020	Agricultural pharmacy, warehouse of pesticides and cultivated lands



Estimated budget

	Number	2018-2020
Researcher	3	320 000 \$
Personnel (contract)	10	130 000\$
Lab technicians	15	270 000\$
Lab equipment	4	200 000\$
Transportation	—	10 000\$
Lab materials/ kits	—	25 000\$
Maintenance	—	30 000\$
Total		985 000\$



Outputs

- **Elaborations of certified norm**
- **Elaboration of guideline:**

For Farmers:
Training session

- How to use pesticides (quantity).
- Harvest-time: how long one must wait between spraying produce and harvesting it.

Stimulation by marketing of labelled products (price differentiation)

For Consumers:
Awareness campaigns

- How and what to eat properly (washing, peeling).
- Importance of buying certified and labelled varieties.

Manuals and brochures



Outcomes



- Increasing awareness of farmers and consumers.
- Improve nutrition status by changing dietary habits.
- Increase the income of farmers by supporting the marketing of labelled produce.
- Transfer knowledge.
- Safe products for exportation.



Assumptions

- **Standard taken seriously by farmers**
- **Farmers and consumers interested to participate in training**
- **Availability of Lab equipments**





Thank You



AARDO
IVTC Staff
World Vegetable Center
Lecturers
Thai people
Colleagues
...

