What is Lab-Path?

- Lab-Path specializes in creating and implementing food safety programs for domestic and international manufacturers for fresh produce.
- Lab-Path's innovation is expressed in :
  a. "Safety Suit" according to customer's needs
  b. Scientific insight and laboratory tools
  c. Designing and applying food safety programs for a third party

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Lab-Path Clients Come From all Sectors

Exporters: Lab-Path supervises fresh produce exported around the world, and is in direct contact with European retailers such as: **Tesco, Marks & Spencer, Sainsbury's, Waitrose and more**.

Government: Lab-Path supervises food products and fresh produce supplied to all Israeli Police stations.

Retail Chains: Lab-Path supervises all fresh produce supplied to Israel's largest retail chain (roughly 40% of Israeli growers).

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Our Path and Destination

Our health and quality assurance plans are designed to guarantee food safety by verifying that food products comply with any and all regulations specified.

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Challenges in the Market Place

- Multiple and constantly changing regulations
- Lack of cooperation between growers, manufacturers, buyers, retailers and authorities
- Lack of organized documented sampling plans
- Analytical services are often not in sync with the situation in the field
- Demand for traceability
- Consumer confidence

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We Connect the Missing Links

1. **Sources of risk in the field -** raw materials, air, soil, water, potential pollutants sources, etc.
2. **Testing –** diverse, precise, frequent and representative
3. **Information processing –** integration between the various standards, implementing methodical updating of information
4. **Findings and actions –** understanding, internalizing and finding solutions: creating a suitable monitoring program and implementing preventive actions that work
5. **Optional –** labeling produce with our registered Stamp of Approval

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Standards for Testing and Approval

Lab Path works exclusively with analytical laboratories which comply with the most stringent standards:

- **ISO 17025** compliant
- **FAPAS** Ring Test approved
- Accredited and approved laboratory by **The Israeli Plant Protection and Inspection Services**

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Why Our Path is Unique

Grower – 100 tons of grapes

60,000€

Logistics Center

24,000€

Importer

Illegal pesticide residues

REJECTION!

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Total Loss: **84,000€** per 100 tons

Total Profit Loss: **146,000€** per 100 tons

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We teach the man how to fish!

How the program works

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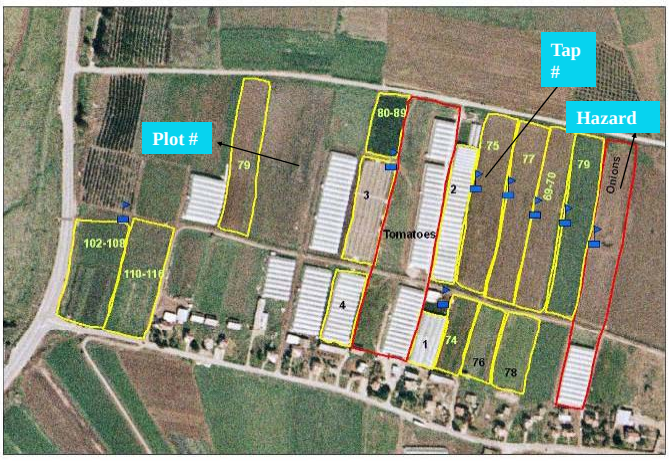
Characterization in Agriculture



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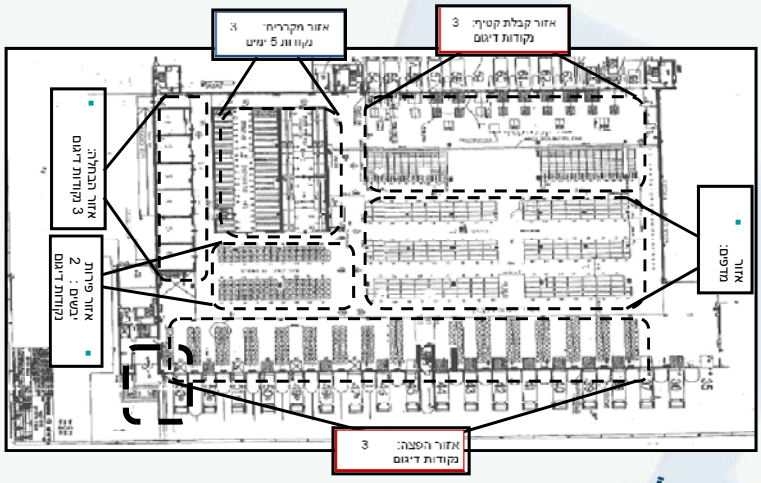
Characterization of a Logistic Center



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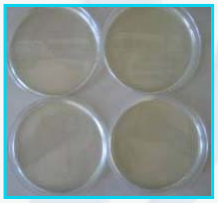
Disinfecting a Contaminated Food Storage Refrigerator

pre-sanitization

post-sanitization



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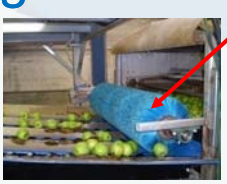
Critical areas for potential contamination in apple packing house



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Safety program components:

- Lab Path Implements a safety programs designed for products marketed for the local and export market which consists of:
  - Composing of a pesticide manual to comply with local and export standards
  - Scheduling and sampling produce for pesticides and microbes in all varieties prior to harvest and throughout the entire supply chain (from field to fork).
  - Implementing methodical updating of information
  - Implementing Irregularity Procedures

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Pesticide Manuals for Grapes

- Pesticide manuals are composed together with exporter's quality assurance department according to:
  - Grape variety
  - Israeli standards
  - EU standards
  - specific destinations
  - customer specifications
  - data analysis from last season
- Manuals are passed on to all growers.
- Marketer and growers are updated regularly with regards to changing standards

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Pesticide Control Manual 2010
POMEGRANATES

תכשירי הדברה ברימון המותרים לשוק מקומי וליצוא 2010

טבלה מס' 1: תכשירים שאינם קוטלי עשבים, חלוקה לפי מזיקים ומחלות

הפגע	שם התכשיר המסחרי	שם גנרי	מינון ליסוס	יומי המתנה	ISRAEL MF	TESCO MF	GBR MF	RUS MF	CODEX MF	הערות NOTES
Target	Trade name	Generic name	Rate	PHI						
סניטציה היא תנאי הכרחי להצלחת ממשק הגנת הצומח										
כחליל הרימון VIRACHOLA LIVIA	אוונט	INDOXACARB	0.03%	27	0.02	0.02	0.02			פוגע באויבים טבעיים יעיל גם נגד עש האשכול, עש הקליפה ועש החרוב
	קסקיד 100 תנ	FLUFENOXURON	0.10%	60	0.20	0.05	0.05			אין לרסס יותר מ-2 ריסוסים בעונה יעיל גם נגד עש האשכול ועש החרוב
	קסקיד 50 תר		0.2%-0.15%							
	ספרטה XDM175	SPINETORAM	0.02-0.025%	14	0.01	0.05	0.05			יעיל גם נגד עש האשכול ותריפסים
	טרייסר אולטרא	SPINOSAD	0.06%	21	0.05	0.02	0.02			יעיל גם נגד עש האשכול ותריפסים
	ראנר תר	METHOXYFENOZIDE	0.04%	ראה הערה	0.30	0.02	0.02			טיפול מותר רק בזן וונדרפול, לאחר אישור לאה סלע בלבד. טיפול אחד בעונה בלבד
	קרטה מקס (סמוראי)	LAMBADA CYHALOTHRIN	0.10%	55	0.30	0.02	0.02			טיפול אחד בעונה בלבד. יעיל גם נגד עש האשכול, עש

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Pesticide control menu in correlation to the growing field

Chlorpyrifos

- Chlorpyrifos breaks down slowly in cases of low temperatures, low radiation and when grapes are grown in covered fields.
- Covered Fields: 40 harvest intervals
- Open fields: 28 harvest intervals
- This information is based on accumulated data

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Sampling and Inspection

- Reviewing spraying protocols prior to sampling
- Sampling from critical areas within inspected plot (e.g. adjacent plots with early and late varieties)
- Reviewing lab analyses according to local and export standards
- Recording and comparing lab analyses to field inspections and spraying protocols

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Customizing of Sampling Program

Taking into consideration the level of risk in each produce:

- Avocado – low risk – rarely sprayed
- Fresh cut herbs – high risk – leafy crops
- Table Grapes – high risk – many pests and disease
- Carrots – high risk – tendency to absorb pesticide residues from contaminated soil

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Processing Accumulated data into Knowledge

Knowledge is gained from collection of information into a database, which serves as a statistical tool. This knowledge is helpful in decision making.

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תת מגדל+מס'	זן	חלקה	חומר	סף שוק מ	תוצאה	קידוח	שם מסח	תקן יצ	ימי המתנ	פעם אחרונה שרוש
אסף ארד 20	יערה	80	Bromopropylate-ח.ה.-	2.0 מקס'	0.02>	OK	נאורון	אסור	93	18/02/2009
אסף ארד 20	יערה	80	Chlorpyrifos-Ethyl-ח.ה.-	1.0 מקס'	0.02>	OK	דורסן	0.5	44	08/04/2009
אסף ארד 20	יערה	80	Cyprodinil-ח.ה.-	2.0 מקס'	0.144	OK	סוויץ'	5	18	04/05/2009
אסף ארד 20	יערה	80	Fludioxonil-ח.ה.-	1.0 מקס'	0.031	OK	סוויץ'	2	18	04/05/2009
אסף ארד 20	יערה	80	Kresoxim-methyl-ח.ה.-	0.50 מקס'	0.02>	OK	סטרובי	1	33	19/04/2009
אסף ארד 20	יערה	80	Quinoxyfen-ח.ה.-	0.50 מקס'	0.02>	OK	אביר	1	22	30/04/2009
סביר 29	פליים סידלס	20	Chlorpyrifos-Ethyl-ח.ה.-	1.0 מקס'	0.02>	OK	דורסן	0.5	לא מופיע	
סביר 29	פליים סידלס	20	Indoxacarb-ח.ה.-	1.0 מקס'	0.060	OK	אוונט	2	לא מופיע	
סביר 29	פליים סידלס	20	Malathion-ח.ה.-	2.0 מקס'	0.02>	OK	מלתיון	0.02	לא מופיע	
סביר 29	פליים סידלס	20	Metalaxyl-ח.ה.-	1.00 מקס'	0.02>	OK	מילור	2	לא מופיע	
סביר 29	פליים סידלס	20	Penconazole-ח.ה.-	0.20 מקס'	0.02>	OK	אופיר	0.2	55	28/03/2009
סביר 29	פליים סידלס	20	Quinoxyfen-ח.ה.-	0.50 מקס'	0.204	OK	אביר	1	לא מופיע	
יעקובי 5	SBS	2	Bromopropylate-ח.ה.-	2.0 מקס'	0.02>	OK	נאורון	אסור	73	10/03/2009
יעקובי 5	SBS	2	Buprofezine-ח.ה.-	0.1 מקס'	0.040	OK	אפלורד	1	לא מופיע	
יעקובי 5	SBS	2	Chlorpyrifos-Ethyl-ח.ה.-	1.0 מקס'	0.028	OK	דורסן	0.5	לא מופיע	
יעקובי 5	SBS	2	Myclobutanil-ח.ה.-	1.00 מקס'	0.054	OK	סיסטאן	1	32	20/04/2009
יעקובי 5	SBS	2	Penconazole-ח.ה.-	0.20 מקס'	0.022	OK	אופיר	0.2	21	01/05/2009
יעקובי 5	SBS	2	Quinoxyfen-ח.ה.-	0.50 מקס'	0.02>	OK	אביר	1	26	26/04/2009
בן דב 49	SBS	2	Bromopropylate-ח.ה.-	2.00 מקס'	0.03	OK	נאורון	אסור	לא מופיע	
בן דב 49	SBS	2	Quinoxyfen-ח.ה.-	0.50 מקס'	0.02	OK	אביר	1	לא מופיע	
ירון יורם 34	SBS	11	Bromopropylate-ח.ה.-	2.0 מקס'	0.031	OK	נאורון	אסור	לא מופיע	
ירון יורם 34	SBS	11	Penconazole-ח.ה.-	0.20 מקס'	0.070	OK	אופיר	0.2	17	10/05/2009
ירון יורם 34	SBS	11	Quinoxyfen-ח.ה.-	0.50 מקס'	0.124	OK	אביר	1	33	24/04/2009
רינה רוזנפלד 15	פליים	4	Bromopropylate-ח.ה.-	2.0 מקס'	0.028	OK	נאורון	אסור	לא מופיע	
רינה רוזנפלד 15	פליים	4	Chlorpyrifos-Ethyl-ח.ה.-	1.0 מקס'	0.078	OK	דורסן	0.5	27	06/05/2009
רינה רוזנפלד 15	פליים	4	Malathion-ח.ה.-	2.0 מקס'	0.036	OK	מלתיון	0.02	לא מופיע	
רינה רוזנפלד 15	פליים	4	Quinoxyfen-ח.ה.-	0.50 מקס'	0.122	OK	אביר	1	34	29/04/2009
ענבי עציון 79	SBS	4	Tebuconazole-ח.ה.-	2.0 מקס'	0.045	OK	פוליקור	2	56	07/04/2009
ענבי עציון 79	SBS	4	Bromopropylate-ח.ה.-	2.0 מקס'	0.02>	OK	נאורון	אסור	91	05/03/2009

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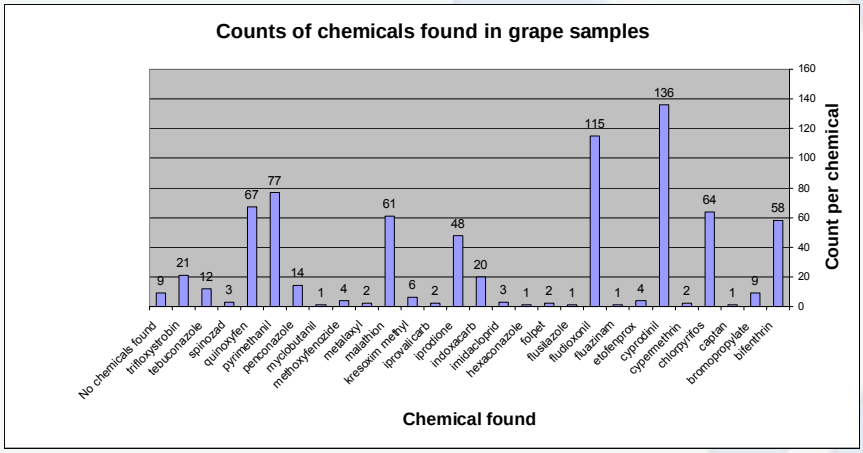
Pesticides used in grapes - 2008



*Out of ~300 field samples

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Pomegranates - 0 Rejections in Europe

- Full cooperation with growers, including transparency and traceability.
- Harvest agenda is provided by the exporter to Lab Path for pre harvest sampling
- Spray records are checked before harvest (positive release)
- Analysis in GCMS+LCMS for all plots and varieties
- Sampling by Lab-Path agronomist: prior picking, during harvest, during and after sorting and from cool chambers

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Conclusions in Pomegranates

. Lambda cyhalothrin- One spray only
2. Methoxyfenozide- One spray only
3. Thiacloprid, Bifenthrin- max. 2 application a season.
4. Most MRL are at LOD. Pesticide residues (0.01-0.02 ppm) are found after more than 100 days.

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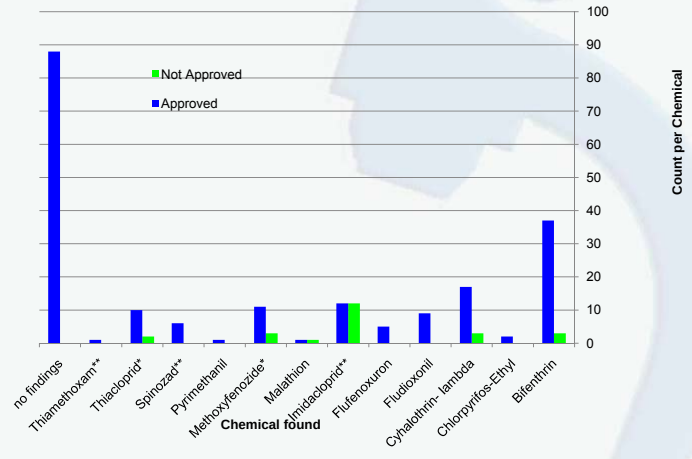
Count per Chemical found in Pomegranates Lab Analysis 2009



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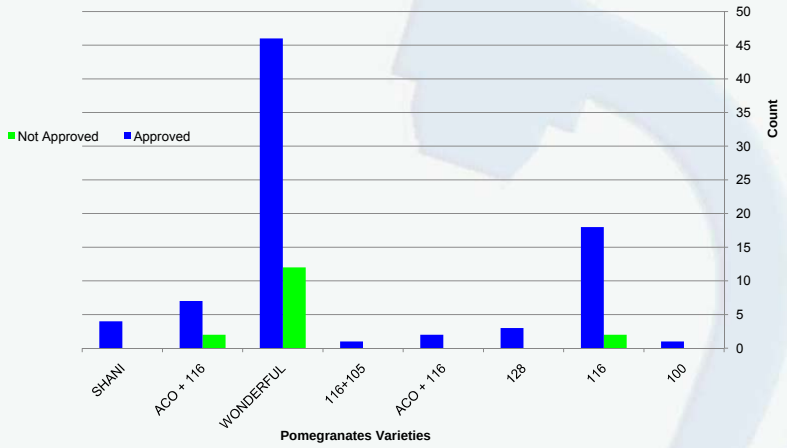
Irregularities found per Variety in Pomegranates 2009



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Actual enforcement

Implementing irregularity procedures:

- Residues of forbidden pesticides
- Residue exceedances above MRL

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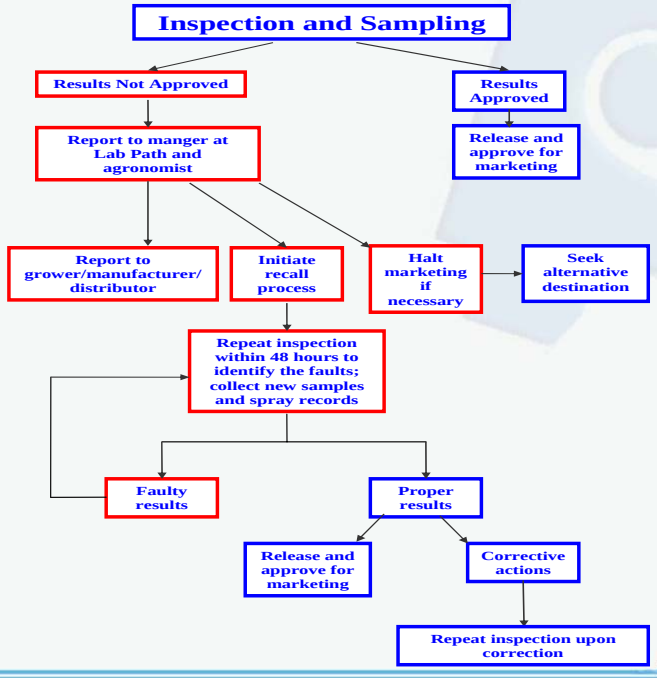

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Added Values

By practicing frequent and adequate inspection

- Farmer's education for good agricultural practice
- Limiting the use of pesticides cuts down on costs and is environment friendly to soil and water
- Encouraging the use of integrated pest management on the farm

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Thank you for taking a stroll down our path