



الجمعية العربية لتربية النحل
Arab Beekeeping Association



HONEY QUALITY AND THE INTERNATIONAL HONEY MARKET

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ApiArab Expo 2018

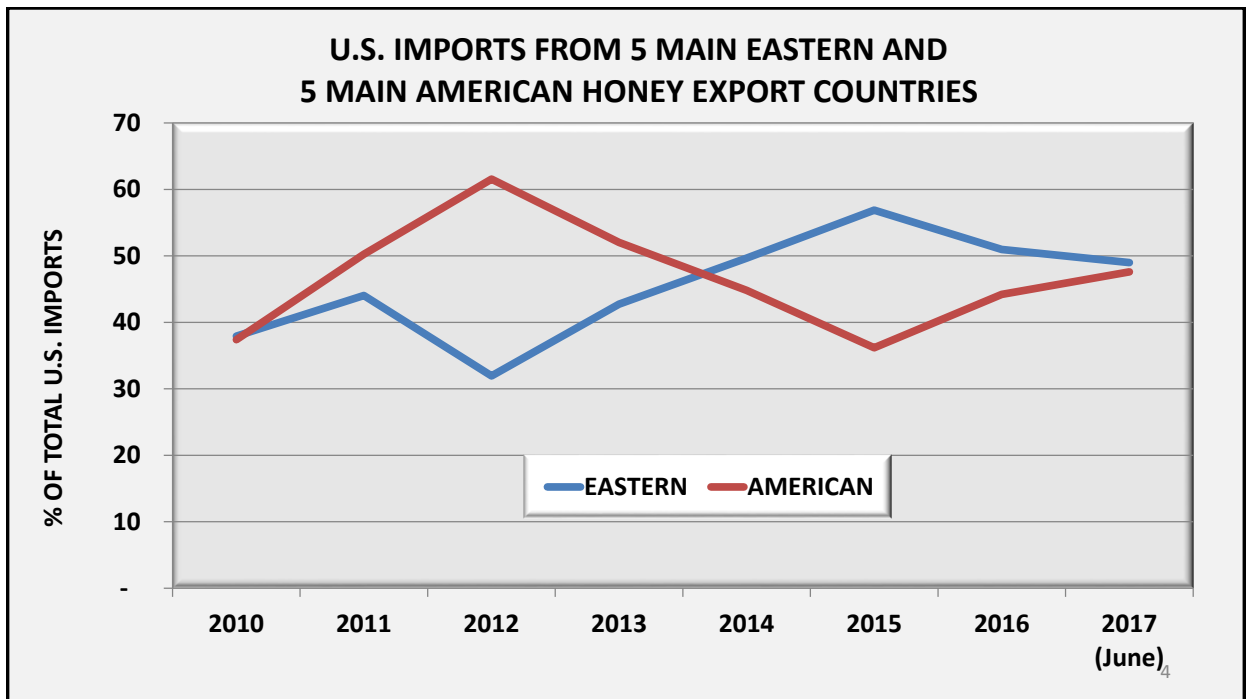
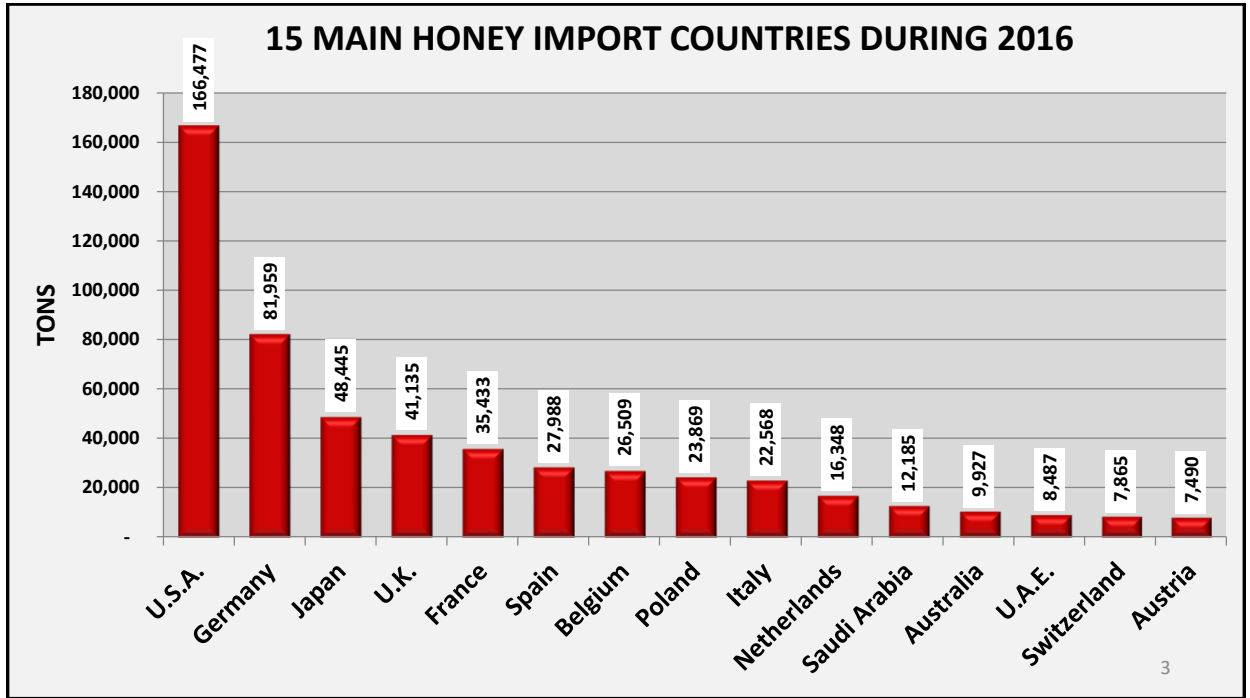
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EXPORTERS AND IMPORTERS

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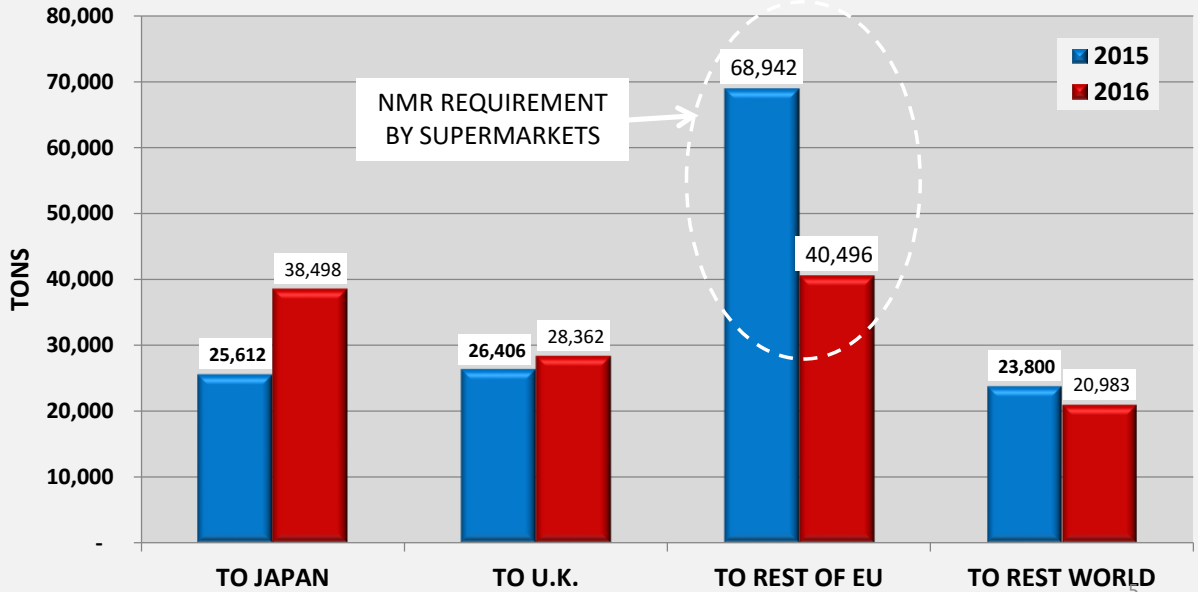
مؤتمر الجمعية العربية لتربية النحل الأول
5 - 6 فبراير 2018م
مركز أبوظبي الوطني للمعارض - دولة الإمارات العربية المتحدة



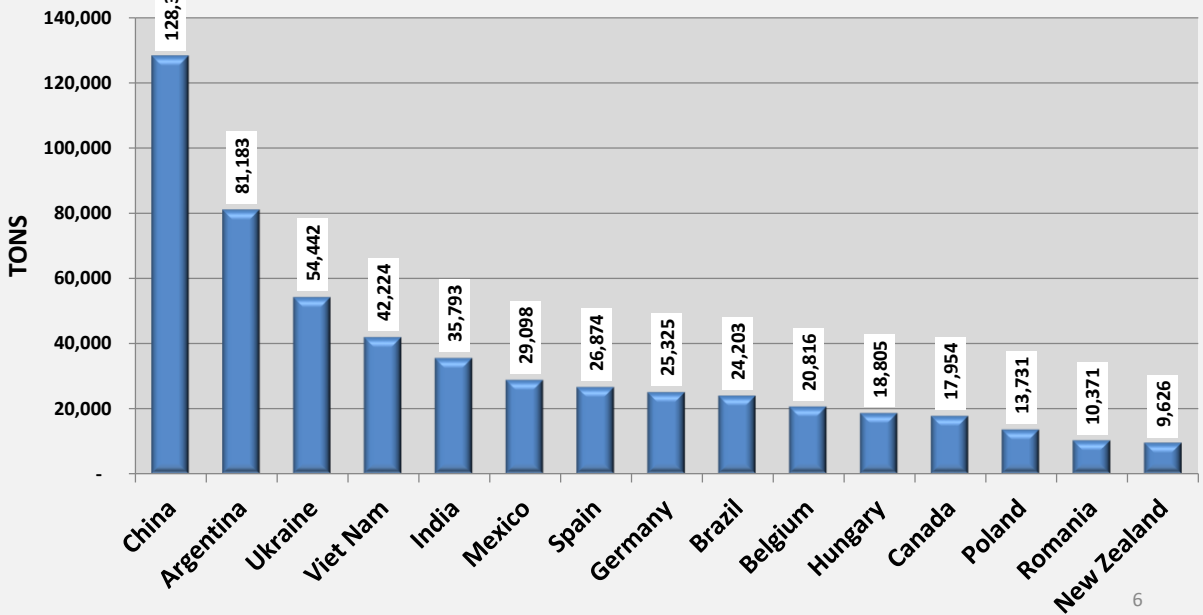
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EVOLUTION OF CHINESE HONEY EXPORTS BY DESTINATION

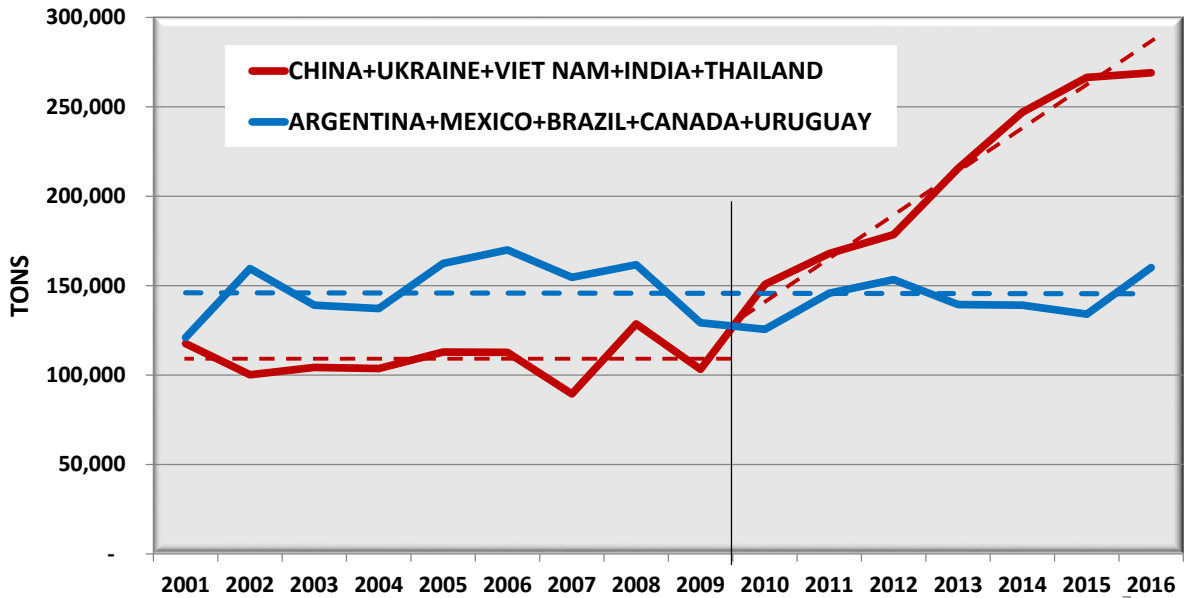


15 MAIN HONEY EXPORT COUNTRIES DURING 2016





EVOLUTION OF HONEY EXPORTS OF TWO GROUP OF COUNTRIES



HONEY QUALITY



MAIN HONEY QUALITY PARAMETERS

PHYSICOCHEMICAL AND AROMATICS

COLOUR

HUMIDITY

H.M.F.

CONDUCTIVITY

ACIDITY

PHENOL

NAPHTALENE

COMPOSITION

ADULTERATION

F/G

SACAROSE

DIASTASE

INVERTASE

POLLEN

P.A.S.

G.M.O.

PESTICIDES

COUMAPHOS

FLUVALINATE

AMITRAZ

GLYPHOSATE

CARBENDAZIM

CLORDIMEFOR

NITROIMIDAZOLE

ANTIBIOTICS

TETRACYCLINES

SULFA DRUGS

TRIMETROPRIM

NITROFURANES

STREPTOMYCIN

TYLOSIN

MACROLIDES

QUINOLONES

PHENICOLS

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HONEY ADULTERATION: The main quality threat

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TYPES OF HONEY FRAUD

1. Intentional dilution with cheap syrups (corn, rice, beet, etc.).
2. Extracting immature honey and dehumidifying it by mechanical means.
3. Use of Resin Technology.
4. Masking the geographical and/or botanical origin.
5. Feeding hives during a nectar flow.

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EVALUATION OF ADULTERATION TESTING WITHOUT NMR

TYPE OF ADULTERATION	FALSE NEGATIVE	FALSE POSITIVE
DILUTION WITH C3 SYRUP	ALL OTHER TARGETED TESTS	-
IMMATURE HONEY	ALL OTHER TARGETED TESTS	-
RESIN TECHNOLOGY	ALL OTHER TARGETED TESTS	-
MASKING GEO ORIGIN	DOCUMENTAL SYSTEMS + POLLEN TEST	-
HIVE FEEDING	ALL OTHER TARGETED TESTS	LC-IRMS

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KNOWING NMR TOOL

- NMR is a screening method that analyses 36 substances of honey (Targeted)
- Includes Classification Analysis (Non targeted):
 - Principal Component Analysis (PCA).
 - Linear Discriminant Analysis (LDA).

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EVALUATION OF ADULTERATION BY NMR

TYPE OF ADULTERATION	FALSE NEGATIVE	FALSE POSITIVE
DILUTION WITH SYRUP	NOT AS SENSITIVE AS EA-IRMS OR LC-IRMS	BROAD DATABASE NEEDED
IMMATURE HONEY	-	BROAD DATABASE NEEDED
RESIN TECHNOLOGY	-	-
MASKING COUNTRY OF ORIGIN	BEST IN CONJUNCTION WITH POLLEN TEST	BEST WITH POLLEN TEST. 200 SAMPLES IN THE NMR DATABASE NEEDED
HIVE FEEDING	FEEDING STUDIES NOW PERFORMED. BEST IN CONJUNCTION WITH LC-IRMS AND SM-B	-

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STRATEGIES TO COMBAT HONEY FRAUD

BOTTOM-UP PRESSURE:

- Awareness of beekeeping community.
- Awareness of consumers. The media.
- Awareness of retailers and packers. Improve testing.

TOP-DOWN PRESSURE:

- Awareness and Collaboration with National Authorities. Honey Standards. Update of official testing.

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PERSPECTIVES

- As long as economically motivated adulteration, customs fraud and the violation of international and national trade laws persist, the wellbeing and stability of world beekeepers remains in jeopardy.
- Supermarkets have a **corporate social responsibility** and a commitment to prevent **consumer fraud**. They have a responsibility in maintaining honest honey producers that indirectly help to maintain the environment.

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REFERENCES

International Trade Centre (ITC)
U.N. COMTRADE Statistics.

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THANK YOU !

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