

**UPOV Seminar on propagating  
and harvested material in the  
context of the UPOV Convention**



**Anti-Infringement Bureau for Intellectual  
Property Rights on Plant Material**

***EXPERIENCE AND ISSUES IN THE VEGETABLE SECTOR***

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Managing Director**

**Geneva, 24 October 2016**

# MY AGENDA FOR THIS AFTERNOON

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1. WHAT IS AIB ?
2. THREE SALIENT FEATURES TO KEEP IN MIND
3. WHAT ARE THE MAIN PIRACY ISSUES IN VEGETABLE SEEDS?
4. WHAT LESSONS HAVE WE LEARNT SO FAR ?
5. LEGAL PVP ISSUES REQUIRING CLARIFICATION

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## WHAT IS AIB ?

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- **AIB = ANTI-INFRINGEMENT BUREAU FOR IP RIGHTS ON PLANT MATERIAL**  
(so our focus is wider than just PVP)
- **START 1 APRIL 2010**
- **OFFICE : BRUSSELS (BELGIUM)**
- **Members are integrated vegetable seed companies: Bejo, Enza, Fito, Gautier, Limagrain, Monsanto, Nunhems, Sakata, Syngenta, Takii, Pop Vriend, Rijk Zwaan**

**Membership is open to other integrated vegetable seed companies.**

## AIB'S MAIN OBJECTIVES

1. AWARENESS, PUBLICITY & DETERRENCE
2. CENTRE OF EXPERTISE AND RELATED NETWORK
3. WATCHTOWER
  - infringements : where & how many & scope ?
4. ASSIST MEMBERS TO FIGHT SUSPECTED PIRATES

- WORLDWIDE BUT STARTED WITH EU, TURKEY, AND NORTH AFRICA

**NOTE:**

- **ENFORCEMENT OF IP RIGHTS REMAINS RESPONSIBILITY OF IP RIGHTS HOLDERS**
- **CLOSE COLLABORATION WITH NATIONAL ENFORCEMENT AGENCIES (POLICE AND ANTI-FRAUDE AGENCIES).**

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# OUR SECTOR FACES SPECIFIC CHALLENGES



## THE VEGETABLE SEED BUSINESS CHAIN



- nature is a perfect copying machine
- copying is cheap, requiring little capital investment
- no distinction between legally and illegally produced harvested product
- illegality does not bother consumer
- often no perceived health hazards (like pharma, pesticides or car parts)
  
- vegetable seeds are often small volume:
  - in weight worth much more than gold!
  - easy to transport

# UNFORTUNATELY NATIONAL SEED MARKETING REGULATIONS ARE OFTEN NOT EFFECTIVELY ENFORCED

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## THE THEORY SOUNDS GOOD.....:

- REGISTRATION IN THE NATIONAL VARIETY CATALOGUE IS REQUIRED
- SEED PRODUCER HAS TO BE CERTIFIED
- ADHERENCE TO QUALITY STANDARDS
- ORIGINAL VARIETY NAME HAS TO BE USED

## ...BUT PRACTICE IS OFTEN DIFFERENT....

- (VERY) WEAK MONITORING:
  - ILLEGALLY REPRODUCED VARIETIES SOLD UNDER OLD GENERIC NAMES (....FOR YEARS....!)
  - NO ACTION ON COUNTERFEIT SEEDS
  - NO ACTION ON ROOTSTOCK FRAUD
- (VERY) LOW PENALTIES FOR OFFENDERS

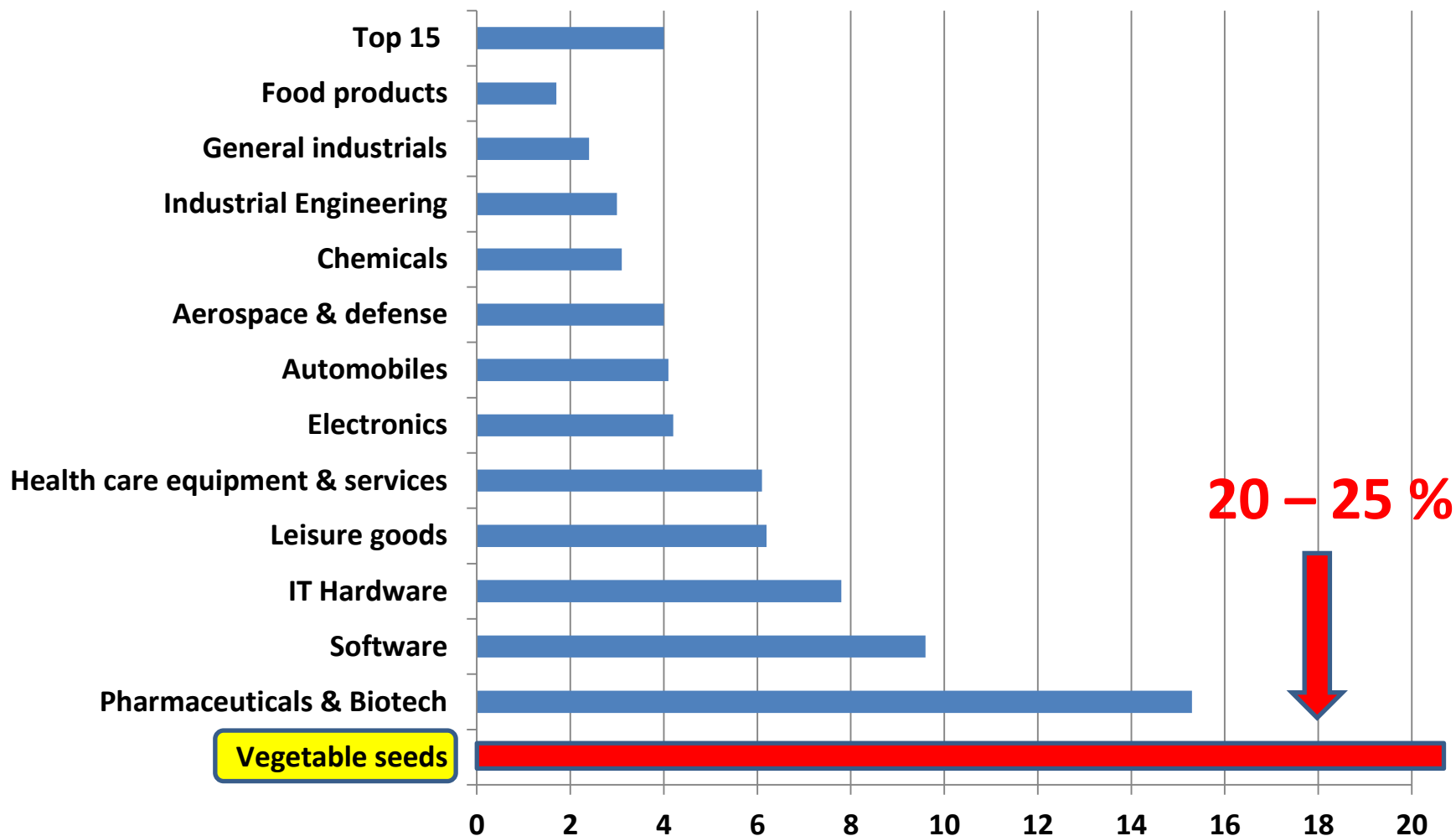
***....AND THEREFORE OFFERING LITTLE HELP FOR ENFORCEMENT***



# ITS VERY HIGH RESEARCH INTENSITY MAKES THE VEGETABLE SEED INDUSTRY VULNERABLE FOR PIRACY



## R&D Intensity (R&D investments/Net Sales)



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# WHAT ARE THE MAIN ISSUES IN THE VEGETABLE SECTOR\*\* ?



## I. PVP RELATED:

### 1) VEGETATIVE PROPAGATION OF GRAFTED CROPS

- TOMATO, WATER MELON, MELON, EGGPLANT
- SUBSTANTIAL VEGETATIVE PROPAGATION IN TOMATO IN MEDITERRANEAN BASIN (**20 %** IN SPAIN AND ITALY; IN CHERRY TOMATOES IN ITALIAN REGIONS UP TO **40%**).

### 2) REPRODUCTION OF SEEDS OF OPEN-POLLINATED CROPS\* (LETTUCE, BEANS)

- PRODUCED OUTSIDE OF NATIONAL REGULATED SYSTEMS
- VARIETIES ARE OFTEN MIS-LABELLED (FRAUDE)
- PRODUCERS ARE OFTEN NOT CERTIFIED
- PRODUCTION OUTSIDE OF QUALITY CHECKS BY AUTHORITIES
- SIGNIFICANT ILLEGAL NETWORK

\* large scale, intentional, for sale

\*\* source: annual AIB infringement surveys 2010-14

## WHAT ARE THE MAIN ISSUES IN THE VEGETABLE SECTOR\* ? (2)

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### 3) F2 PRODUCTION OF ONION HYBRIDS

- EASTERN EUROPE, TURKEY, RUSSIA, UKRAINE, BELARUS, KAZAKHSTAN, SPAIN
- physical detection is often very difficult (hardly any differentiation)

## II. NOT - PVP RELATED:

### 4) UNAUTHORISED SALE OF UNPROTECTED (NO PVP) HYBRIDS

- TOMATO, SQUASH, EGGPLANT, BRASSICA, ETC.
- MANY COUNTRIES, SEVERAL CONTINENTS
- CAUSE: **THEFT / UNAUTHORISED USE OF PROPRIETARY PARENT LINES (IN LEGAL TERMS: TRADE SECRET THEFT)**
- LEADING TO SUBSTANTIAL (FINANCIAL) IMPACT ON OWNER
- MARKET DISRUPTION REPORTED IN SOME CASES

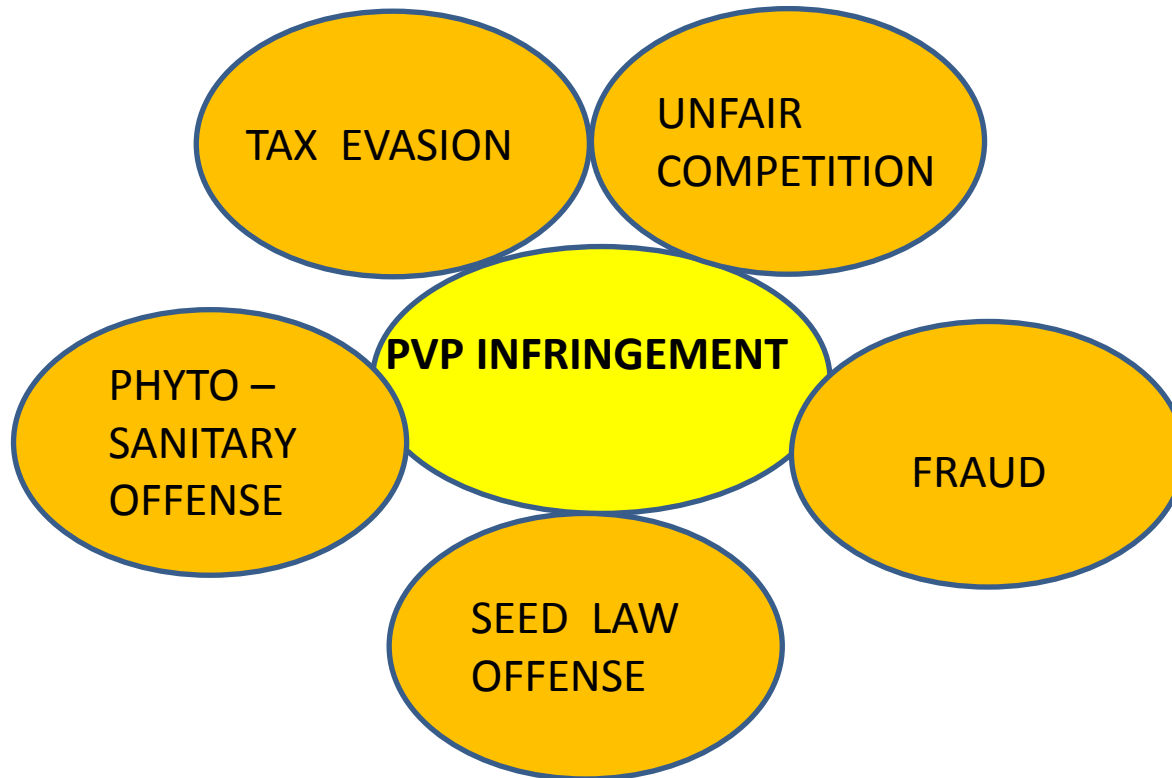
### 5) SALE OF COUNTERFEIT SEED PACKAGES

- EASTERN EUROPE, MIDDLE EAST, ASIA, AFRICA
- FOUND IN MANY CROPS

\* source: annual AIB infringement surveys 2010-14

# PVP INFRINGEMENT IS OFTEN LINKED TO A CLUSTER OF OTHER ILLEGALITY / OFFENSES

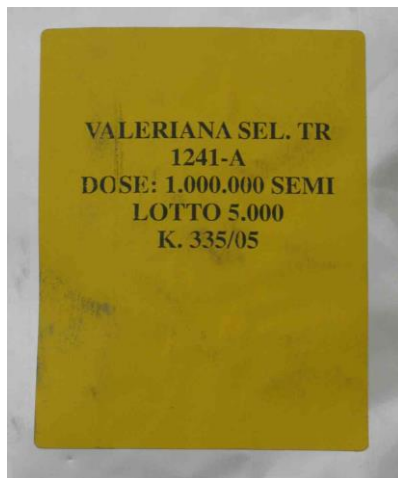
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# IT IS IMPOSSIBLE FOR AIB TO PROVE PVP INFRINGEMENT WITHOUT COLLABORATION FROM AUTHORITIES



- **VEGETATIVE PROPAGATION OF TOMATOES / MELONS**
  - HOW TO PROVE?
  - ACCESS TO GREENHOUSE AND DOCUMENTS REQUIRED (INVOICES /PLANT PASSPORTS)
- **REPRODUCTION OF LETTUCE SEED**
  - OFTEN 'WHITE BAGGED' (NO PROPER LABELS)
  - ACCESS TO GREENHOUSE /FIELDS AND DOCUMENTS REQUIRED (FOR INSPECTION OF INVOICES / PLANT PASSPORTS)



# HOW TO FIND EVIDENCE OF ILLEGAL TOMATO REPRODUCTION FROM BEHIND THE FENCE ?

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# HOW TO FIND EVIDENCE OF ILLEGAL TOMATO REPRODUCTION ?

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- LEGAL AND ILLEGAL PLANTS CANNOT BE DIFFERENTIATED (STUBS!)
- ILLEGALLY GROWN TOMATOES HAVE IDENTICAL DNA
  - ↳ INSPECTIONS OF TOMATO / LETTUCE AT RETAILERS IS OF NO USE
- PRODUCTION IN CLOSED GREENHOUSES --→ NOT ACCESSIBLE

**COMPARISON BETWEEN INVOICES AND NO. OF PLANTS REQUIRED**

***BUT HOW ?***

***RIGHT HOLDERS ARE IN NO POSITION TO DEMAND THIS  
(PREVALENCE OF PRIVACY PROTECTION ABOVE SALES CONDITIONS)***



**WITHOUT ACTIVE COLLABORATION FROM AUTHORITIES OUR ENFORCEMENT EFFORTS ARE UNSUCCESSFUL**



- **IMPOSSIBLE TO OBTAIN SOLID EVIDENCE OF VEGETATIVE REPRODUCTION**
- **IMPOSSIBLE TO OBTAIN SOLID EVIDENCE OF USE OF ILLEGALLY REPRODUCED SEED**

**THIS IS HOW IT WORKS IN ITALY AND SPAIN:**

- **AIB PROVIDES VERIFIED INTELLIGENCE TO INSPECTION AGENCIES**
- **INSPECTION AGENCIES WILL CARRY OUT INSPECTIONS**
- **AIB RECEIVES (CONFIDENTIAL) REPORT ON THE RESULTS OF THE INSPECTIONS**

# VEGETATIVE RE-PRODUCTION OF TOMATO : HOW DOES IT WORK ?

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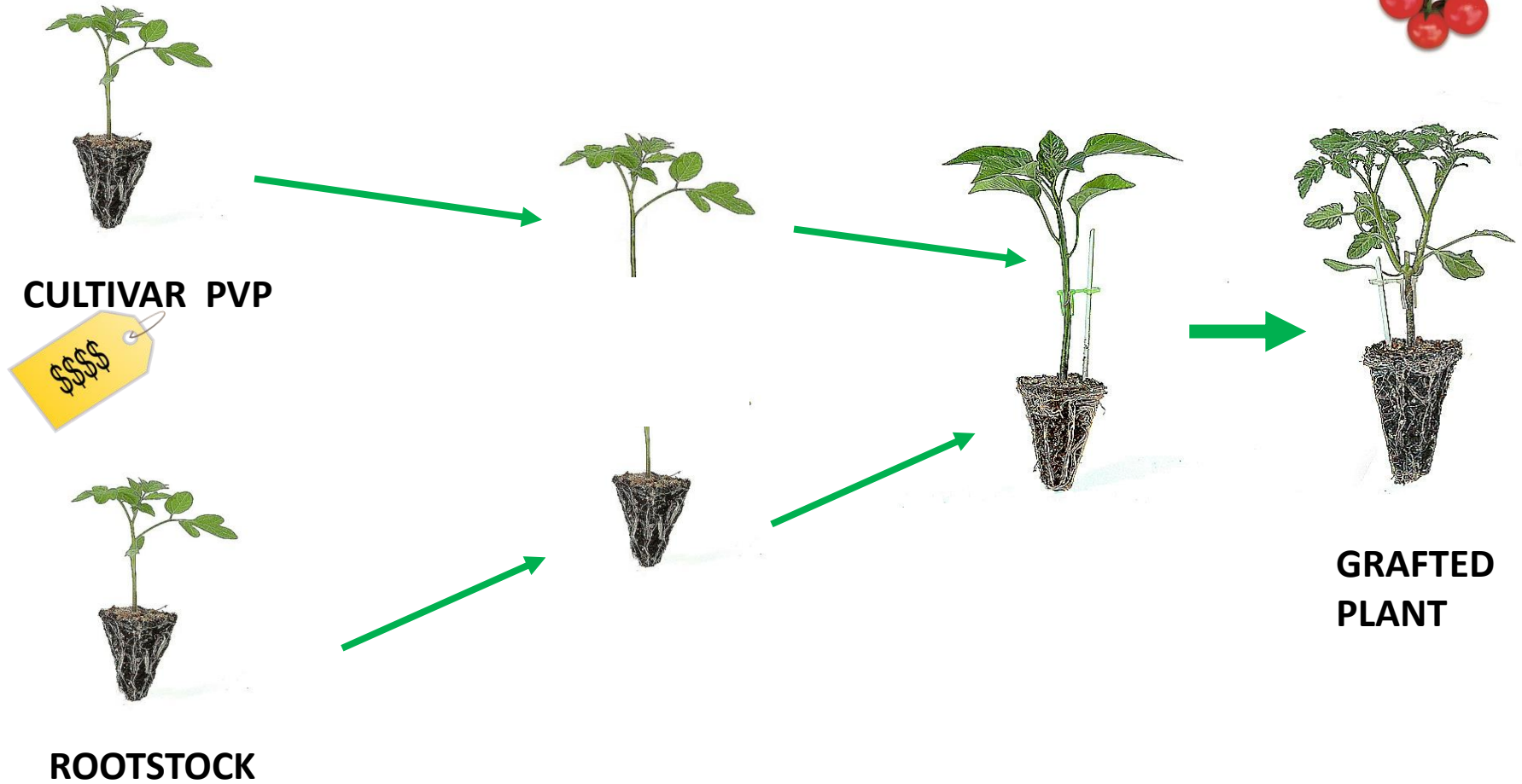
## TOMATO PRODUCTION IN SOUTHERN EUROPE

- MOSTLY GROWN WITH TWO STEMS PER PLANT
- SEASON : SOWN AND TRANSPLANTED IN SEPTEMBER, AND GROWN UNTIL MAY



# GRAFTING OF (TOMATO) PLANTS

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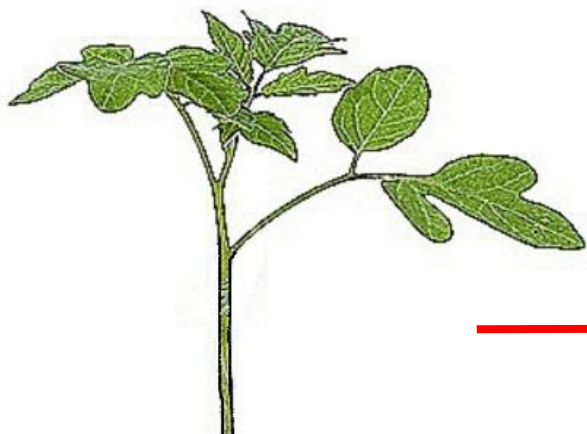


# GRAFTING FACILITATES TWO WAYS OF ILLEGAL VEGETATIVE REPRODUCTION OF (TOMATO) PLANTS (1)

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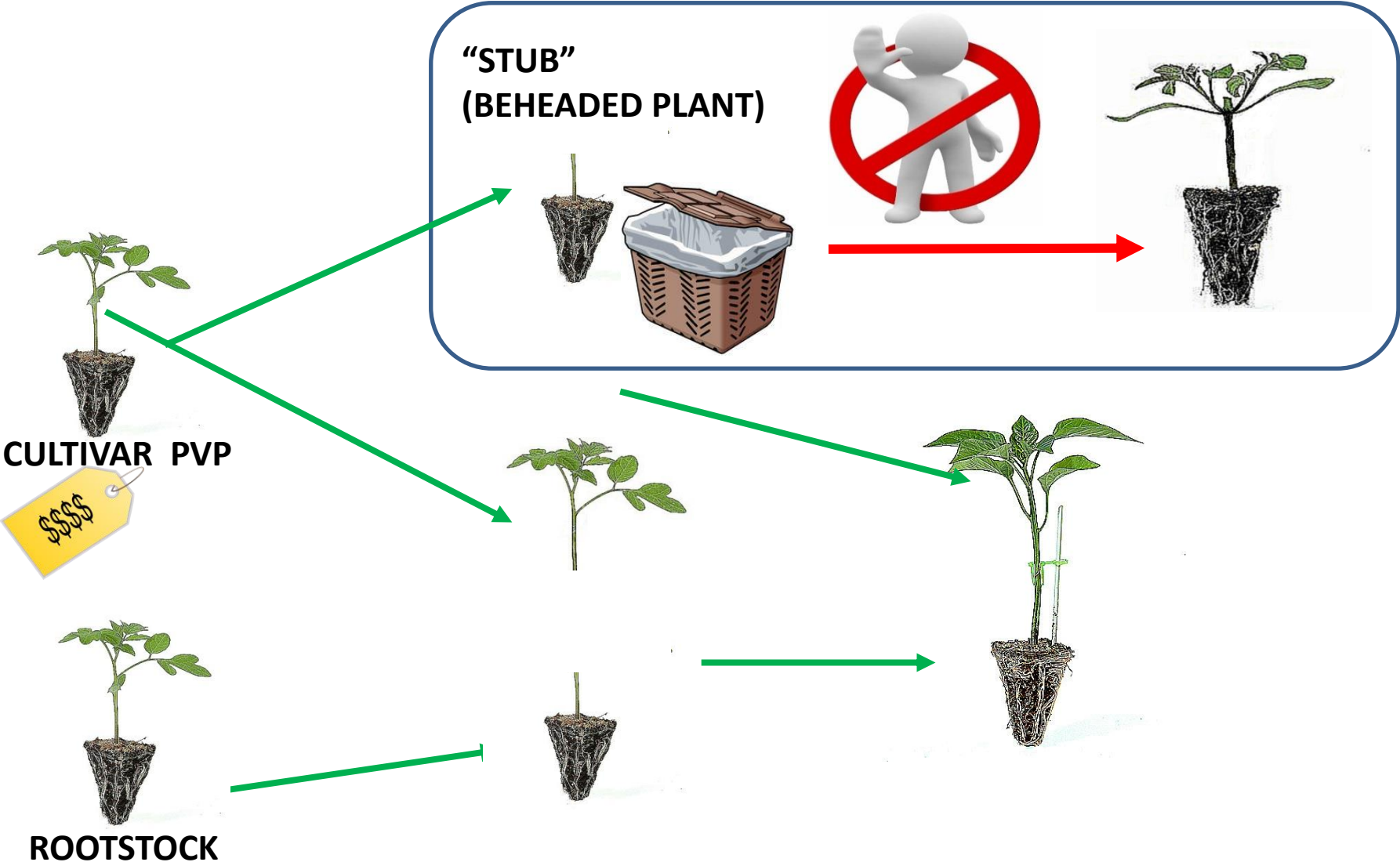


## (1) ILLEGAL REPRODUCTION OF TOMATO PLANTS BY CUTTINGS



# GRAFTING FACILITATES TWO WAYS OF ILLEGAL VEGETATIVE REPRODUCTION OF (TOMATO) PLANTS (2)

(2) THE BEHEADED CULTIVAR ('STUB') SHOULD BE DISCARDED AFTER GRAFTING

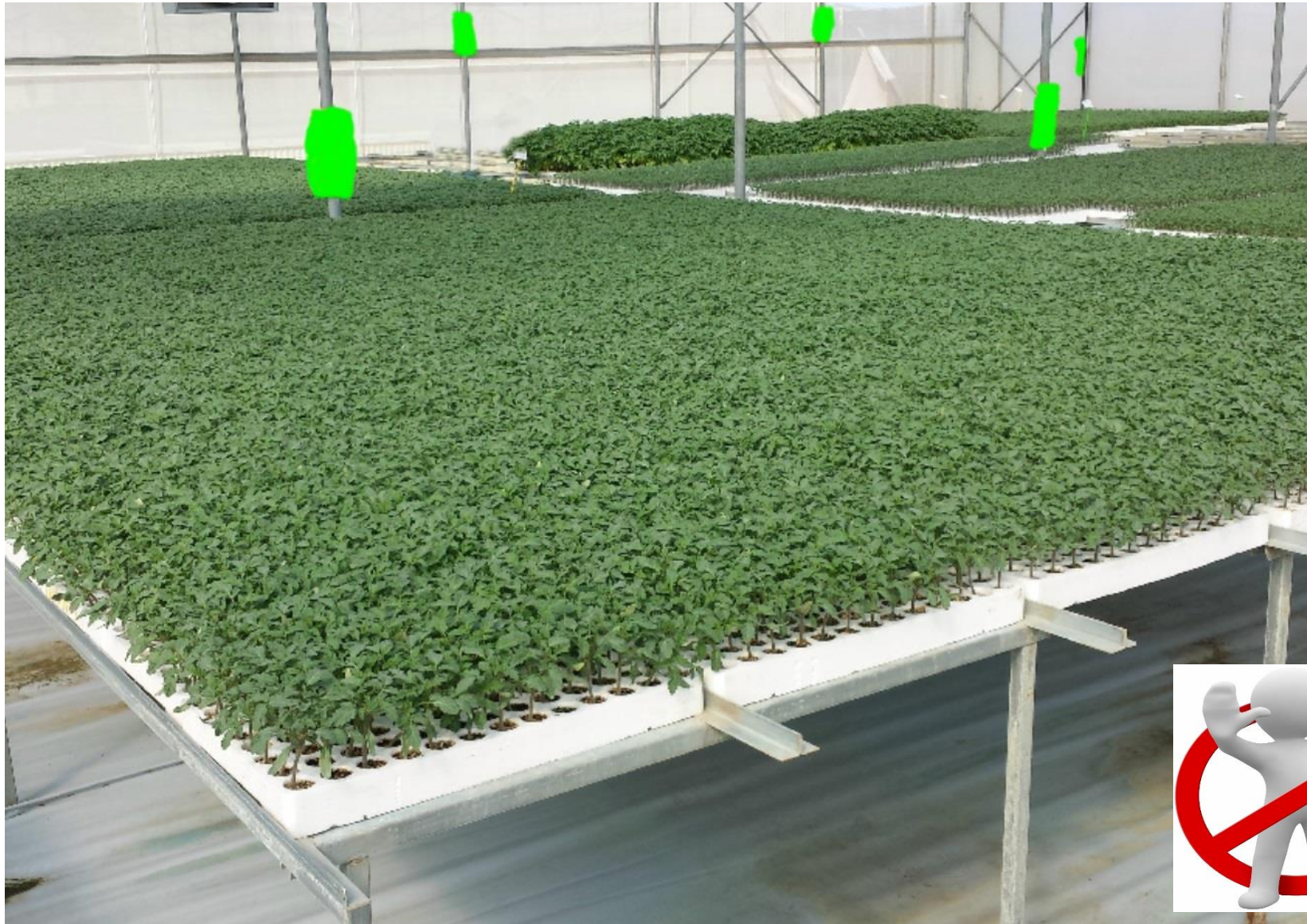


# AN ILLUSTRATION OF STUBS

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# GREENHOUSE WITH STUBS (BEHEADED CULTIVAR TOMATO PLANTS) TO BE ILLEGALLY SOLD



# ILLEGAL REPRODUCTION OF TOMATO PLANTS BY NURSERY

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# ILLEGAL REPRODUCTION OF TOMATO PLANTS BY NURSERY

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# ILLEGAL REPRODUCTION OF TOMATO PLANTS BY NURSERY

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## WHAT LESSONS HAVE WE LEARNT SO FAR ? (1)

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**PUBLIC AND PRIVATE SECTOR COOPERATION IS KEY IN ENFORCEMENT OF PVP WITHIN THE VEGETABLE SEED CHAIN**

**EVIDENCE OF INFRINGEMENT CANNOT BE OBTAINED BY THE RIGHT HOLDER ALONE AS INSPECTIONS OF THE GROWERS ARE DIFFICULT / IMPOSSIBLE**

## WHAT LESSONS HAVE WE LEARNT SO FAR ? (2)

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### THE BASICS WHEN FIGHTING PIRACY IN THE VEGETABLE SEED CHAIN:

1. **MASS BALANCE ANALYSIS (COMPARING SEED INVOICE WITH NUMBER OF PLANTS GROWN) IS OFTEN (THE ONLY) WAY TO OBTAIN LEGAL EVIDENCE OF PIRACY**
2. **TIME TO ACT AGAINST PIRACY IS SHORT.** (Growing cycles are short, summer lettuce 3-4 weeks!)
3. THEREFORE **SHORT CYCLE TIMES** TO PRODUCE (DNA-BASED) VARIETY IDENTIFICATION TEST RESULTS ARE VITAL
4. **DNA IDENTITY TEST RESULTS** SHOULD BE ACCEPTED BY THE AUTHORITIES / COURTS FOR TAKING **FIRST STAGE** LEGAL ACTION

## MY CONCLUSION :

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- **'VERTICAL ENFORCEMENT' OF PBR TO COMBAT PIRACY DOWNSTREAM IN THE VEGETABLE BUSINESS CHAIN PROVES TO BE MORE DIFFICULT AS IT REQUIRES A SUPPORTING LEGAL AND INSTITUTIONAL FRAMEWORK:**
  - evidence of infringement cannot be obtained by the right holder alone as inspections of the growers are difficult / impossible
  - without active help from authorities, breeders' enforcement efforts are unsuccessful
  - PBR enforcement is often hindered by the lack of effective enforcement of the national seed marketing regulations.
  
- **CONSEQUENTLY, SOME WELL ORGANISED PIRATES HAVE SUCCESSFULLY ESTABLISHED PROFITABLE BUSINESS MODELS.**

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# 1. STUBS (BEHEADED PLANTS AFTER GRAFTING)



## AIB's view:

In case one plant is grown from one seed from which one graft is done, the act should be regarded as infringing the breeder's right if the original plant, from which the cutting was taken, is not thrown away but grown on to a fully mature and fruit-bearing plant".

**HOWEVER:** Plant raisers in Italy and Spain claim that producing and selling stubs is legal.

*Table 1. Applicability of the words 'production', 'reproduction', 'propagation', and 'multiplication' to the growing seedling from a tomato seed, to the stub that is left after cutting off the upper part of the seedling, and the scion that is taken from the seedling, is grafted on a rootstock and grows separately from the roots of the original seedling.*

	Seedling from one tomato seed	Growing stub	Grafted, growing scion
<b>Production</b>	+	+	+
<b>Reproduction</b>	- <sup>1)</sup>	- <sup>1)</sup>	+
<b>Propagation</b>	+	+	+
<b>Multiplication</b>	-	+ <sup>2)</sup>	+ <sup>2)</sup>

<sup>1)</sup> The seed, seedling and stub can be regarded as the same individual. The plant is not reproduced, but maintained. Therefore the word 'reproduction' is less appropriate here.

<sup>2)</sup> The word 'multiplication' is only applicable if more than one plant is produced from a mother plant, and the progeny is genetically identical to this parental plant. If both the stub and scion are alive and develop as separated plants, the parental plant is multiplied.



## 2. SHOULD THE ACT OF GRAFTING BE SUBJECT TO AUTHORIZATION BY THE BREEDER?

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If grafting is seen as propagation, the grafting of PVP varieties should be subject to prior authorization by the breeder.

*Most scientific plant breeding authors classify grafting as a specific case of plant propagation. Some authors, especially those who work with woody crops, include it in multiplication.*



**Anti-Infringement Bureau for Intellectual Property Rights on  
Plant Material**

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