



REACH 100% RECYCLING OF MULCHING FILMS IS IT POSSIBLE?

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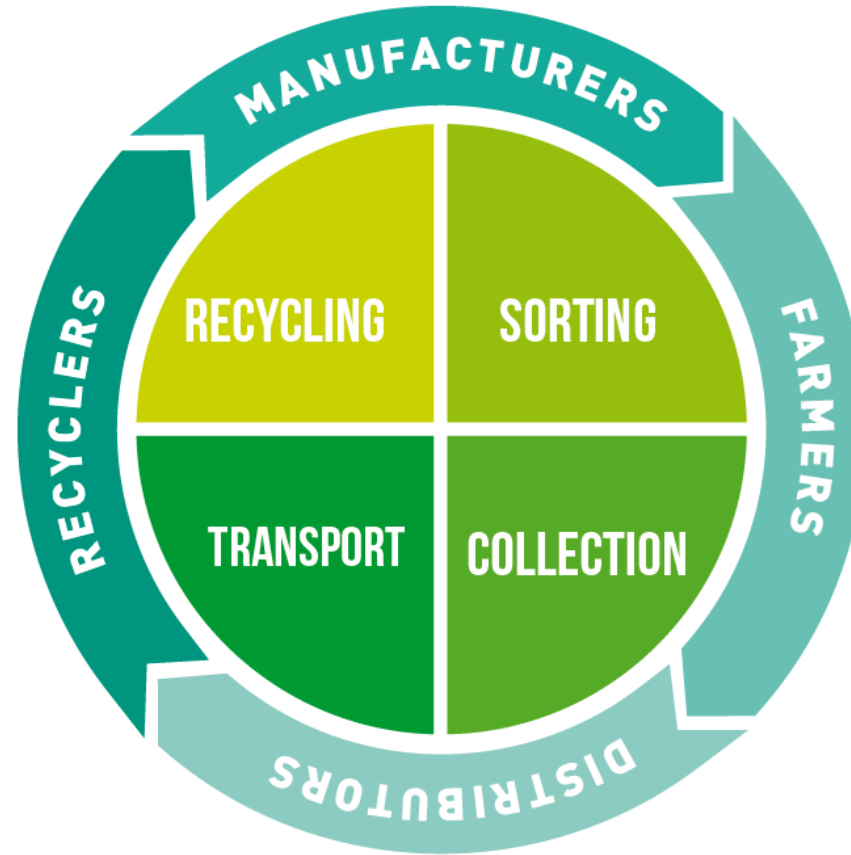
AGRICULTEURS, DISTRIBUTEURS, INDUSTRIELS POUR LA VALORISATION DES DÉCHETS AGRICOLES

SUMMARY



- **A.D.I.VALOR** : who are we?
- Mulching Films : the **French** case
- Aiming **100%** recycling ?
 - Reduction
 - Mechanical recycling

A.D.I.VALOR - FRENCH VOLUNTARY SCHEME



The organisations representing the Plastic Industry (CPA), Plant Protection Industry (UIPP,UPJ), Fertilizer Industry (UNIFA, SOVEEA), Seed Industry (UFS, ARES), Hygienic Industry (SEPH), the coopératives (Coop de France, InVivo), private distributors (FNA) and farmers (FNSEA,APCA) support A.D.I.VALOR.

A.D.I.VALOR : AGRIWASTE COLLECTED



	2001	2002	2005	2007	2008	2009	2010	2012	2013	2015	2016	2019
Phytosanitary products	plastic containers (HDPE, PET)	plastic or metal barrels	cardboard boxes and paper bags								Personal Protection Equipment	
Fertilizer and soil				big bags (PP, PE) plastic bags (PE)	sacs plastiques (PE)							
Seed						big bags (PP)		paper bags				
Used plastics		ape Agriculture Plastique Environnement				used agriplastic film (LDPE)			bale twine, net wrapping (PP, HDPE)	anti-hail netting (LDPE)		flexible irrigation pipes (LDPE)
Hygiene products							plastic containers (HDPE)					œnological products containers (HDPE)

20
streams



77.000 tons
of agriplastics and packaging collected in 2018
(+ 6 500t*)

** mulching film excluded*

UP TO 90% OF COLLECTED PACKAGING AND USED AGRICULTURAL PLASTICS ARE RECYCLED



Recycled containers



Tubes for industry

Technical ducts



Recycled big-bags

Plastic boxes

Construction elements



Recycled plastic film

Garbage bags



Recycled anti-hail netting

Street furniture

CONCRETE EXAMPLE OF CIRCULAR ECONOMY



- 350 manufacturers
- 1 300 distributors (7000 collection points)
- 300 000 farmers
- More than 70 sorting, preparation and pretreatment operators
- 30 recyclers

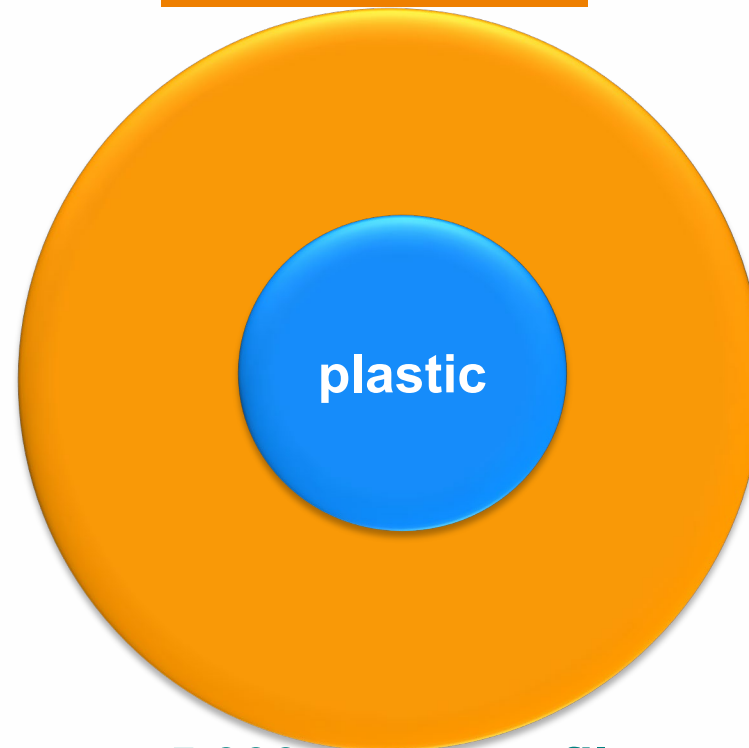
MULCHING FILMS : THE FRENCH CASE



MULCHING FILMS : THE FRENCH CASE

Contamination rate: 66%

Coefficient 3



5 000 tons new films

15 000 tons used films

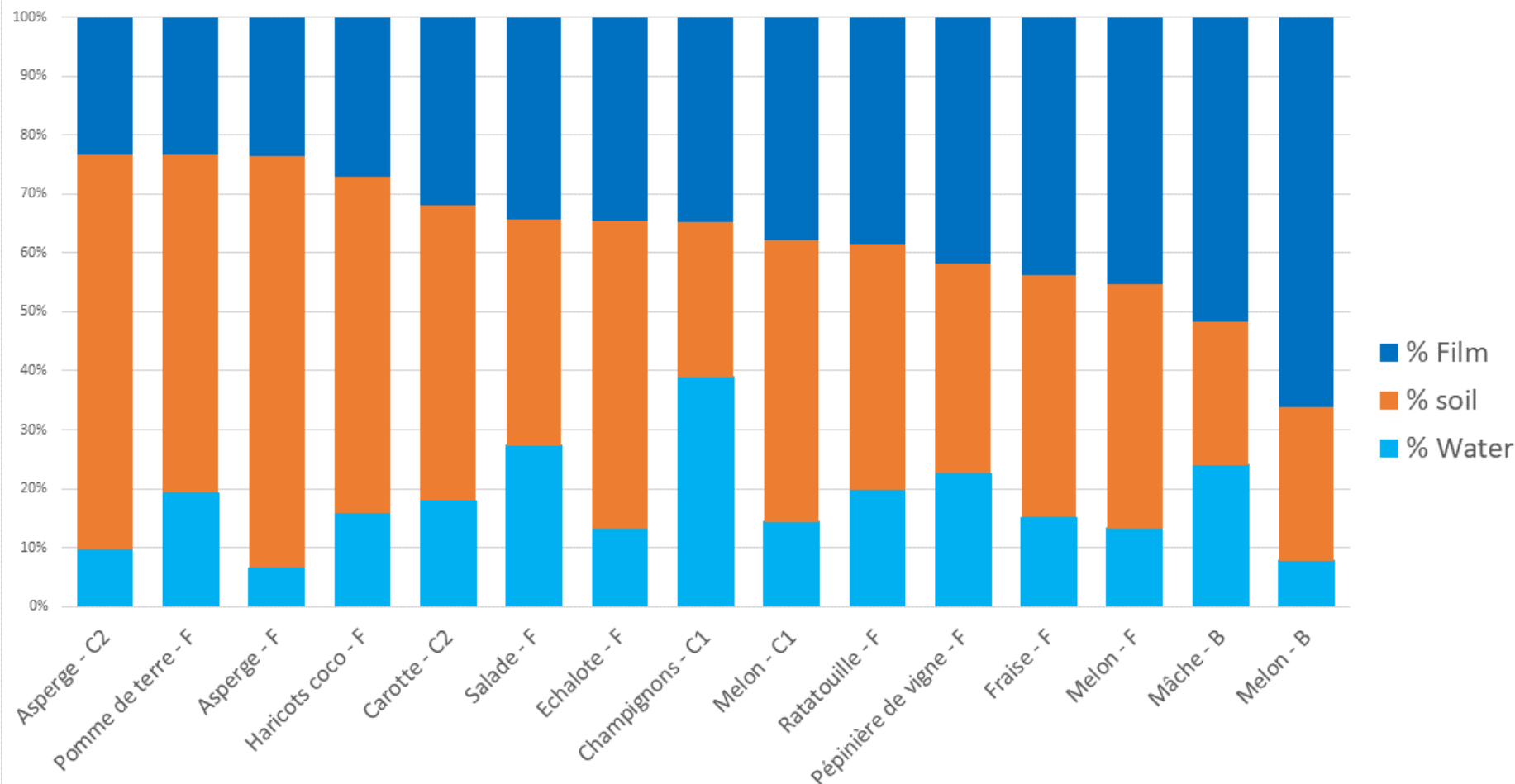
10 000 tons of contaminants

MULCHING FILMS : THE FRENCH CASE



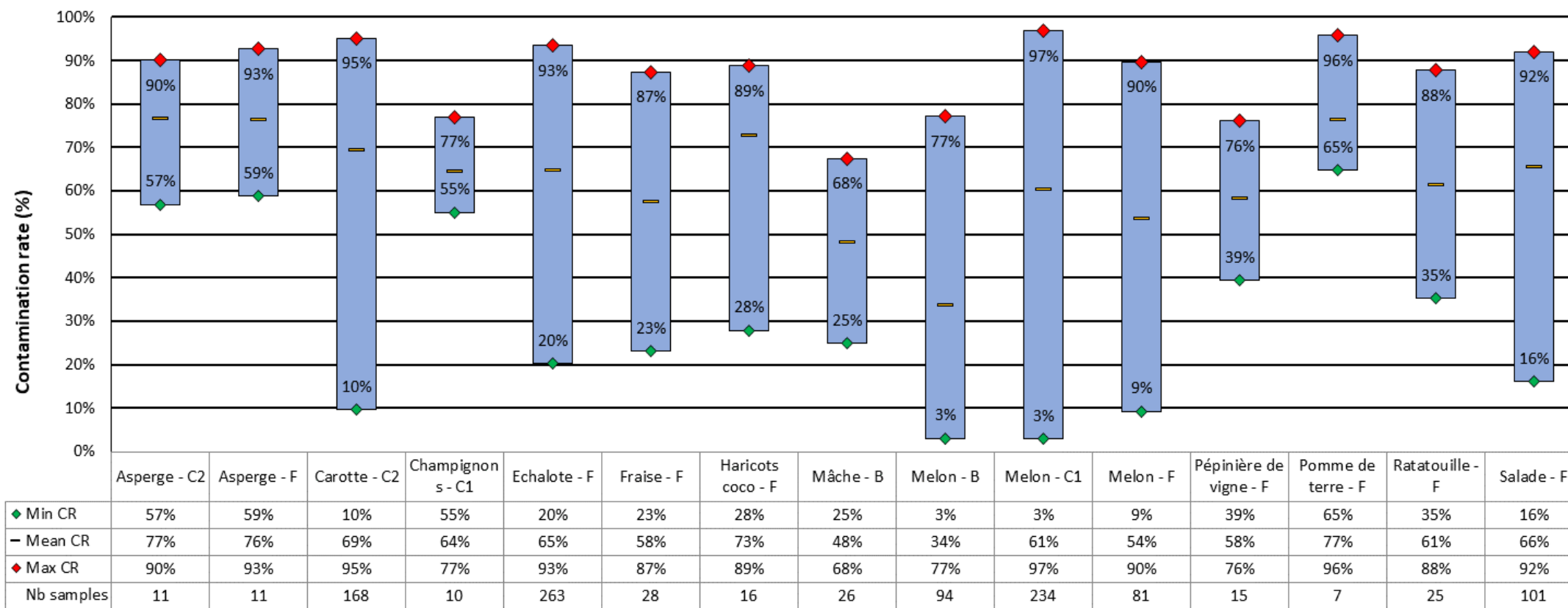
Agriculture Plastique
Environnement

Characteristic of used film - by crop type



MULCHING FILMS : THE FRENCH CASE

Contamination rate (CR): Type of film / crop



RECYCLING RATE : DEFINITION



$$RR = \frac{Q_R}{Q_W}$$

Quantity of waste recovered for recycling

Quantity of waste to be recycled

RECYCLING RATE



$$100\% = \frac{Q_R}{Q_W}$$

REDUCTION : SWITCH TO COMPOSTABLE FILMS



REDUCTION : “RAFU” INNOVATION

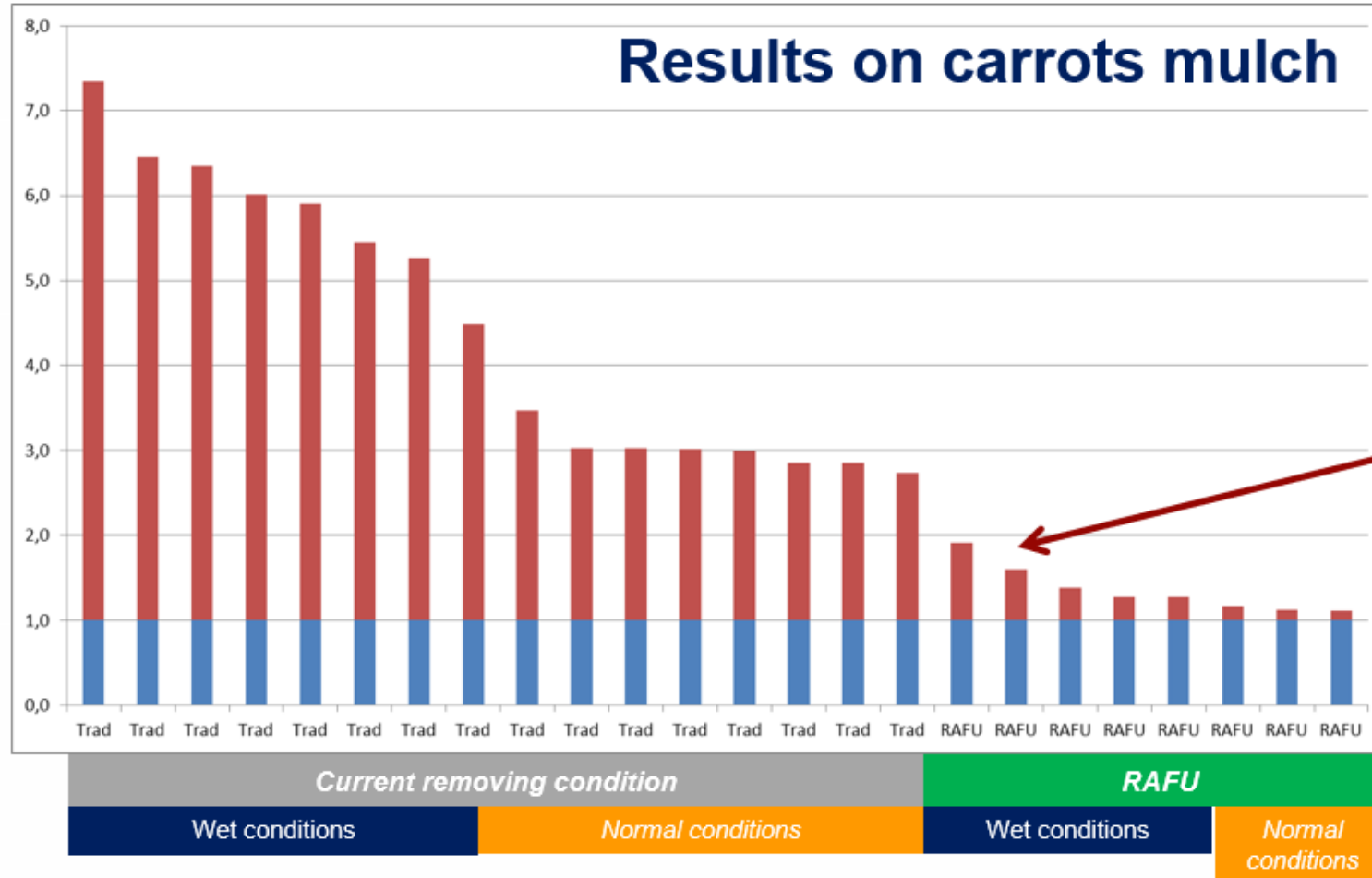


Development of a new technology able to drastically **reduce** the contamination level during removal operations



REDUCTION : “RAFU” INNOVATION: RESULTS

Contamination coefficient



Contamination

New film

MECHANICAL RECYCLING :



MECHANICAL RECYCLING : **CLEAN FLEX**® PROJECT



- 10.000 t /year capacity (input)
- 3.500 t / year reprocessed material (output)
- 5 millions € Investment
- Shredding, washing and drying Technologies
- Water treatment System
- 10 000 m2 storage area
- Launching July 2021



CONCLUSIONS

- Reduce quantity of waste
- Improve mechanical recycling process
- Invest in dedicated facility

Supported by a **National EPR scheme**



Voluntary **National Scheme**,
for collection and recycling of mulching films
is **supported in France** by :



Europlastic



AGRICULTEURS, DISTRIBUTEURS, INDUSTRIELS POUR LA **VALORISATION** DES DECHETS AGRICOLES