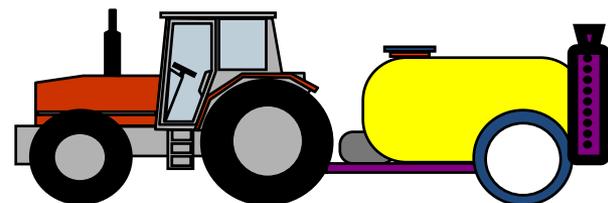
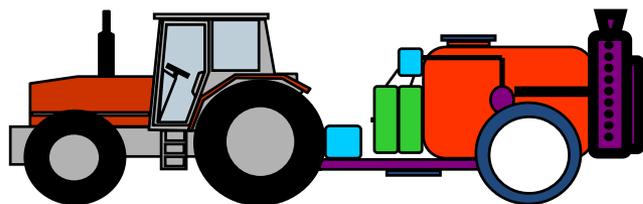


EOS – Software para la evaluación del riesgo de contaminación de los equipos de aplicación de fitosanitarios



**EOS – Environmentally
Optimised Sprayer**

**www.topps-eos.org
www.topps-life.org**



**EOS = ENVIRONMENTALLY
OPTIMISED SPRAYER**

**EQUIPO CANDIDATO
A EVALUAR**



EQUIPO DE REFERENCIA



**EVALUACION
MEDIOAMBIENTAL**

INDICE EOS = 100



INDICE EOS??





Gran variedad de equipos de aplicación ...



Los principales problemas están relacionados con...

CONTAMINACIÓN INTERNA

CONTAMINACIÓN EXTERNA

LLENADO

PERDIDAS INCLUÍDA DERIVA

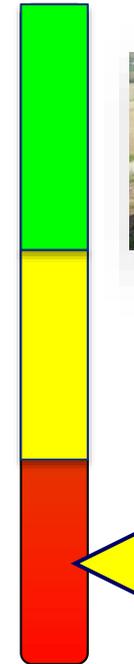
RESIDUOS



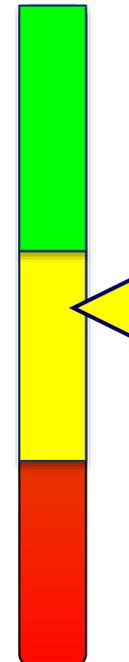


Existen dos herramientas **EOS** diferentes
(EOS_{barras} y EOS_{atomizadores})

Ejemplo: Atomizador sin elementos de prevención de contaminación puntual o difusa



Atomizador equipado con dispositivos de prevención (incorporador de producto, limpieza, boquillas anti deriva,...)

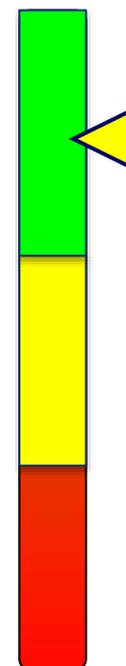


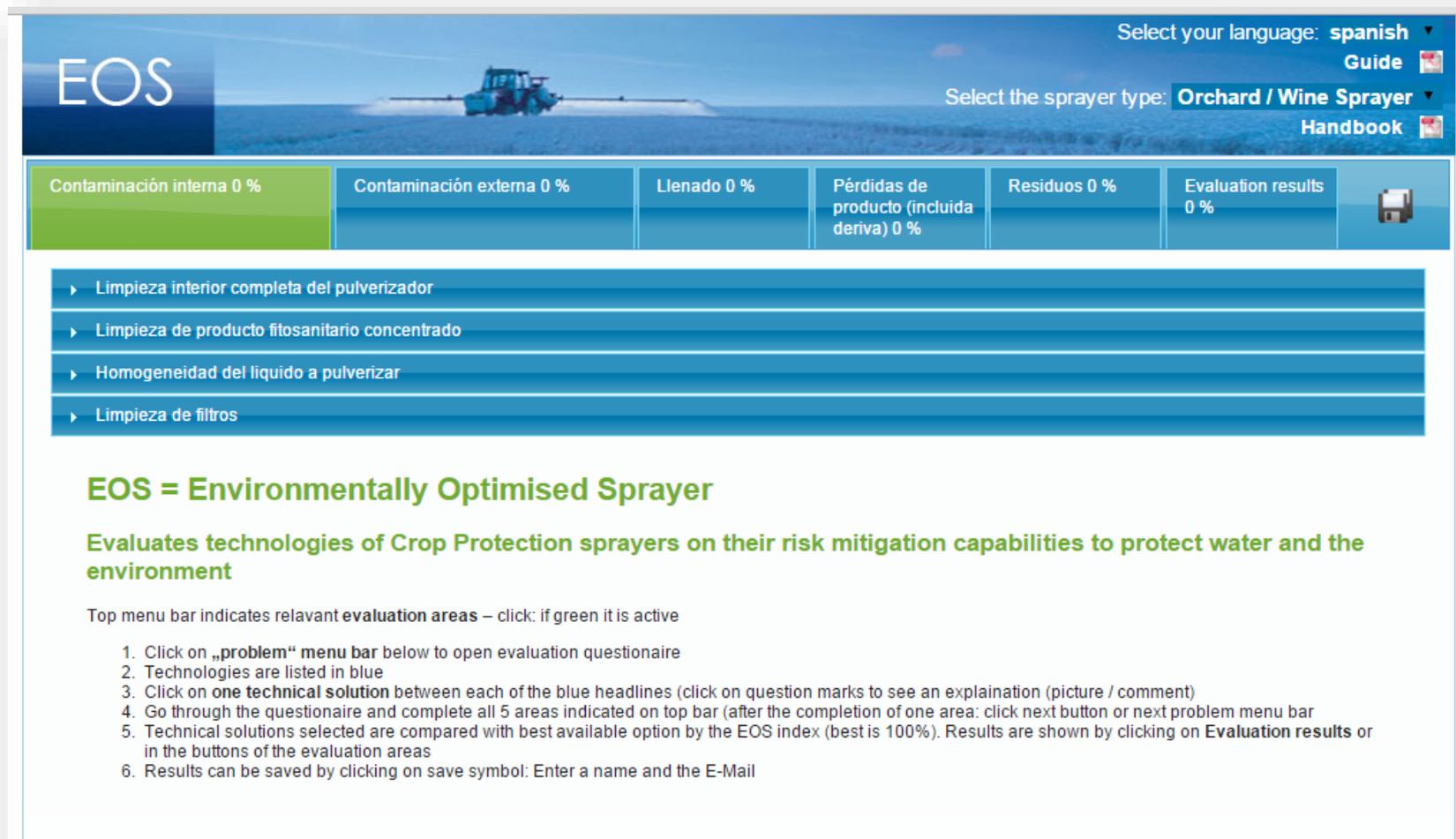
Atomizador equipado con dispositivos de prevención (incorporador de producto, limpieza, boquillas anti deriva,...)



Evaluation results

Inside contamination (35%)	96 %	★★★★★
Outside contamination (20%)	63 %	★★★☆☆
Filling (20%)	76 %	★★★★☆
Spray losses including drift (15%)	68 %	★★★☆☆
Remnants (10%)	69 %	★★★☆☆
Total	78 %	★★★★☆





The screenshot shows the EOS web application interface. At the top, there is a navigation bar with the 'EOS' logo on the left and language and sprayer type selection options on the right. Below the navigation bar is a progress bar with six sections: 'Contaminación interna 0 %' (highlighted in green), 'Contaminación externa 0 %', 'Llenado 0 %', 'Pérdidas de producto (incluida deriva) 0 %', 'Residuos 0 %', and 'Evaluation results 0 %'. A save icon is located to the right of the progress bar. Below the progress bar is a list of four blue menu items, each with a right-pointing arrow: 'Limpieza interior completa del pulverizador', 'Limpieza de producto fitosanitario concentrado', 'Homogeneidad del liquido a pulverizar', and 'Limpieza de filtros'. Below the menu items is a green heading 'EOS = Environmentally Optimised Sprayer' followed by a green sub-heading 'Evaluates technologies of Crop Protection sprayers on their risk mitigation capabilities to protect water and the environment'. Below this is a paragraph: 'Top menu bar indicates relevant evaluation areas – click: if green it is active'. Finally, there is a numbered list of six instructions for using the application.

Select your language: **spanish** ▾
Guide 

Select the sprayer type: **Orchard / Wine Sprayer** ▾
Handbook 

Contaminación interna 0 %	Contaminación externa 0 %	Llenado 0 %	Pérdidas de producto (incluida deriva) 0 %	Residuos 0 %	Evaluation results 0 %	
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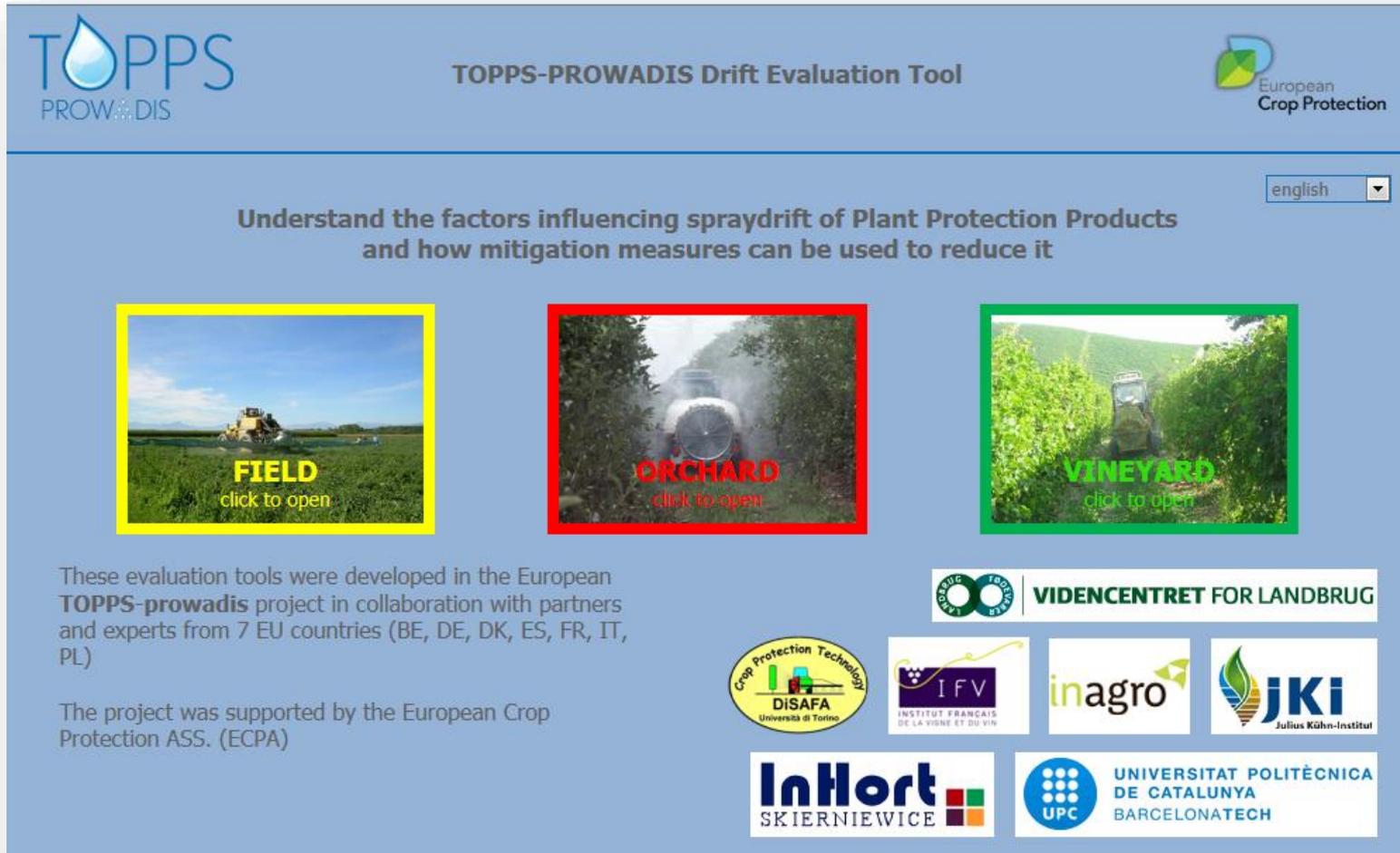
- ▶ Limpieza interior completa del pulverizador
- ▶ Limpieza de producto fitosanitario concentrado
- ▶ Homogeneidad del liquido a pulverizar
- ▶ Limpieza de filtros

EOS = Environmentally Optimised Sprayer

Evaluates technologies of Crop Protection sprayers on their risk mitigation capabilities to protect water and the environment

Top menu bar indicates relevant **evaluation areas** – click: if green it is active

1. Click on „**problem**“ menu bar below to open evaluation questionnaire
2. Technologies are listed in blue
3. Click on **one technical solution** between each of the blue headlines (click on question marks to see an explanation (picture / comment))
4. Go through the questionnaire and complete all 5 areas indicated on top bar (after the completion of one area: click next button or next problem menu bar)
5. Technical solutions selected are compared with best available option by the EOS index (best is 100%). Results are shown by clicking on **Evaluation results** or in the buttons of the evaluation areas
6. Results can be saved by clicking on save symbol: Enter a name and the E-Mail



TOPPS
PROWADIS

TOPPS-PROWADIS Drift Evaluation Tool

European Crop Protection

english ▾

Understand the factors influencing spraydrift of Plant Protection Products and how mitigation measures can be used to reduce it



FIELD
click to open



ORCHARD
click to open



VINEYARD
click to open

These evaluation tools were developed in the European **TOPPS-prowadis** project in collaboration with partners and experts from 7 EU countries (BE, DE, DK, ES, FR, IT, PL)

The project was supported by the European Crop Protection ASS. (ECPA)



VIDENCENTRET FOR LANDBRUG



DISAFA
Università di Torino



IFV
INSTITUT FRANÇAIS DE LA VIGNE ET DU VIN



inagro



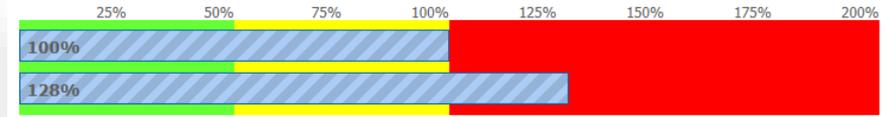
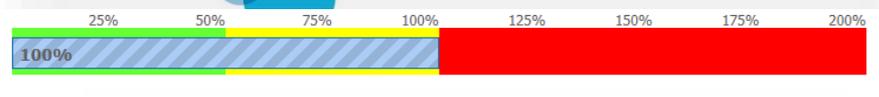
JKI
Julius Kühn-Institut



InHort
SKIERNIEWICE



UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH



WIND: Direction



- TOWARDS sensitive area
- PARALLEL to sensitive area
- AWAY FROM the sensitive area

AIR: Temperature



- < 15°C
- 15 - 25°C
- > 25°C

CROP: Canopy density



- 10%
- 25%
- 50%
- 75%
- 90%

WIND: Velocity



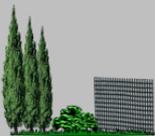
- CALM < 0,5 m/s
- LOW 0,5 - 1,5 m/s
- MEDIUM 1,6 - 3,0 m/s
- HIGH 3,1 - 4,0 m/s
- VERY HIGH > 4,0 m/s

AIR: Humidity



- < 40%
- 40 - 60%
- > 60%

VINEYARD: Adjacent structure



- BARE GROUND
- MEADOW
- HIGH VEGETATION, WINDBREAK

DRIFT REDUCTION TECHNOLOGY CLASSIFICATION:

- NO CLASSIFICATION
- 25 %
- 50 %
- 75 %
- 90 %
- 95 %
- 99 %
- other: %

APPLICATION PARAMETERS: Driving velocity



- 3 - 4,5 km/h
- 4,6 - 6 km/h
- 6,1 - 8 km/h
- > 8 km/h

SPRAYER ADJUSTMENT: Spray output adjustment



- No special adjustment
- Number of nozzles visually adjusted to crop height
- Above + output of nozzles visually adjusted to tree height
- Spray range and distribution adjusted by sprayer test service

SPRAYER ADJUSTMENT: Air-flow adjustment



- No special adjustment
- Airflow velocity visually adjusted to crop density
- Above + air direction/deflection visually adjusted to crop density
- Airflow velocity and direction adjusted by sprayer test service

APPLICATION METHOD: Sprayer type



- AXIAL FLOW
- CROSS FLOW
- MULTI-SPOUT SPRAYER
- MULTI-Row sprayer
- TUNNEL / REFLECTION / RECYCLING
- CANNON sprayer
- SPRAYLANCE (handheld)

APPLICATION METHOD: Nozzle type & pressure



- HOLLOW CONE \varnothing < 10 bar
- HOLLOW CONE \varnothing > 10 bar
- AIR-IND. HOLLOW CONE \varnothing < 10 bar
- AIR-IND. HOLLOW CONE \varnothing > 10 bar
- AIR-IND. FLAT FAN \varnothing < 10 bar
- AIR-IND. FLAT FAN \varnothing > 10 bar
- PNEUMATIC ATOMISER

APPLICATION SCENARIO: Spray scenario



- STANDARD TWO-SIDED APPLICATION
- ONE-SIDED APPLICATION on ROW 1
- ONE-SIDED APPLICATION on ROWS 1+2
- ONE-SIDED APPLICATION on ROWS 1+2+3

