Héliosec®
Farm Water Management System

Michel Leborgne – 3rd Biobed Worksop – Piacenza, Italy – August 2010

Introduction

Héliosec®

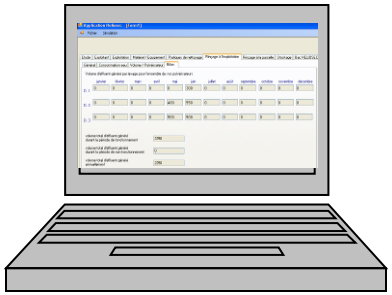
- Is part of our contribution to Sustainable Agriculture
- Fits in our Stewardship Land Use & Water Protection Program
- Contributes to successful implementation of the Sustainable Use Directive
- Is a Simple, safe and economic way to mitigate point source contamination

A first Approach

Domaine viticole de St Louis-la-Perdrix (Gard)

What is Héliosec®?

- A diagnostic software system

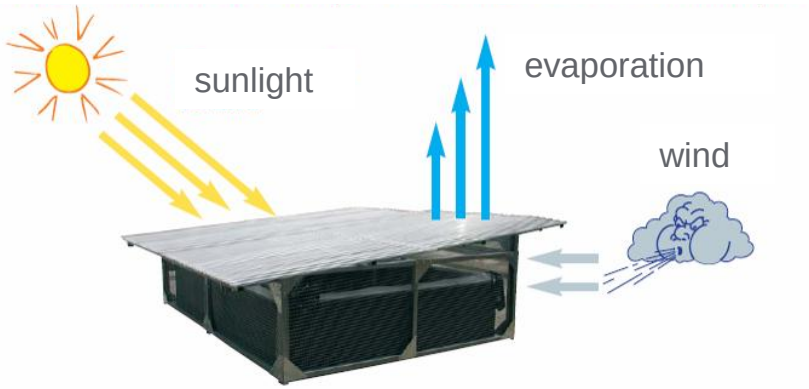


- A dehydration device

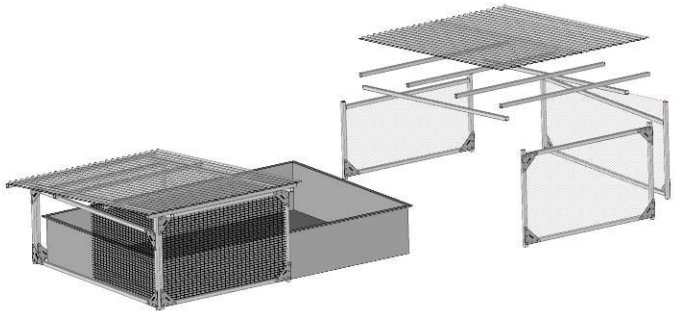
- A disposal process for residues

How does it work? What is it made of?

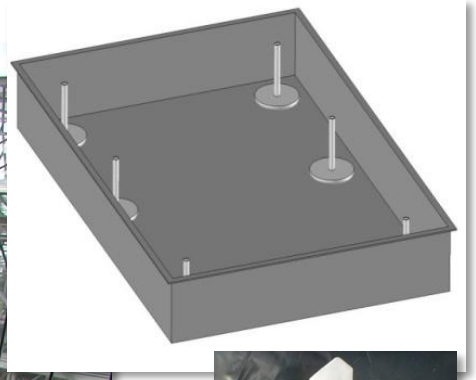
- A simple, safe and economic process



- Tank made from Polyethylene
- Metal frame roof and tank to stand on concrete surface



Tank Installation



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Completed Installation

Frame is fixed to the Ground

Examples of Installations on Farms

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

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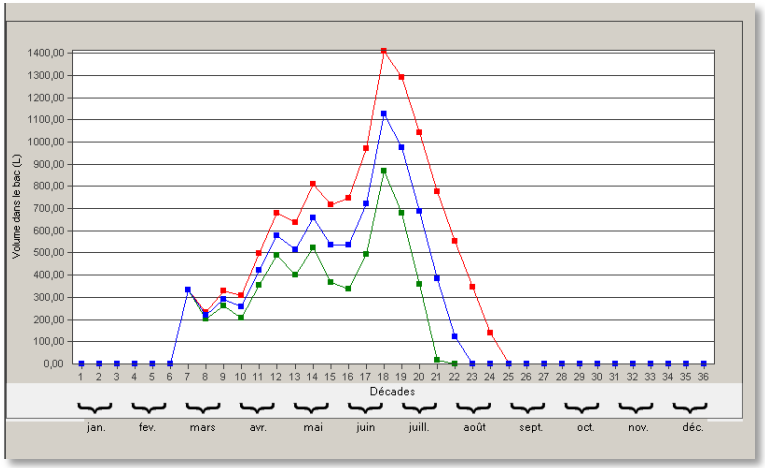
Collecting the Residues and replacing the Liner

- Easy access

- PPE needs to be worn when removing the used liner
- Residues are disposed of with liner

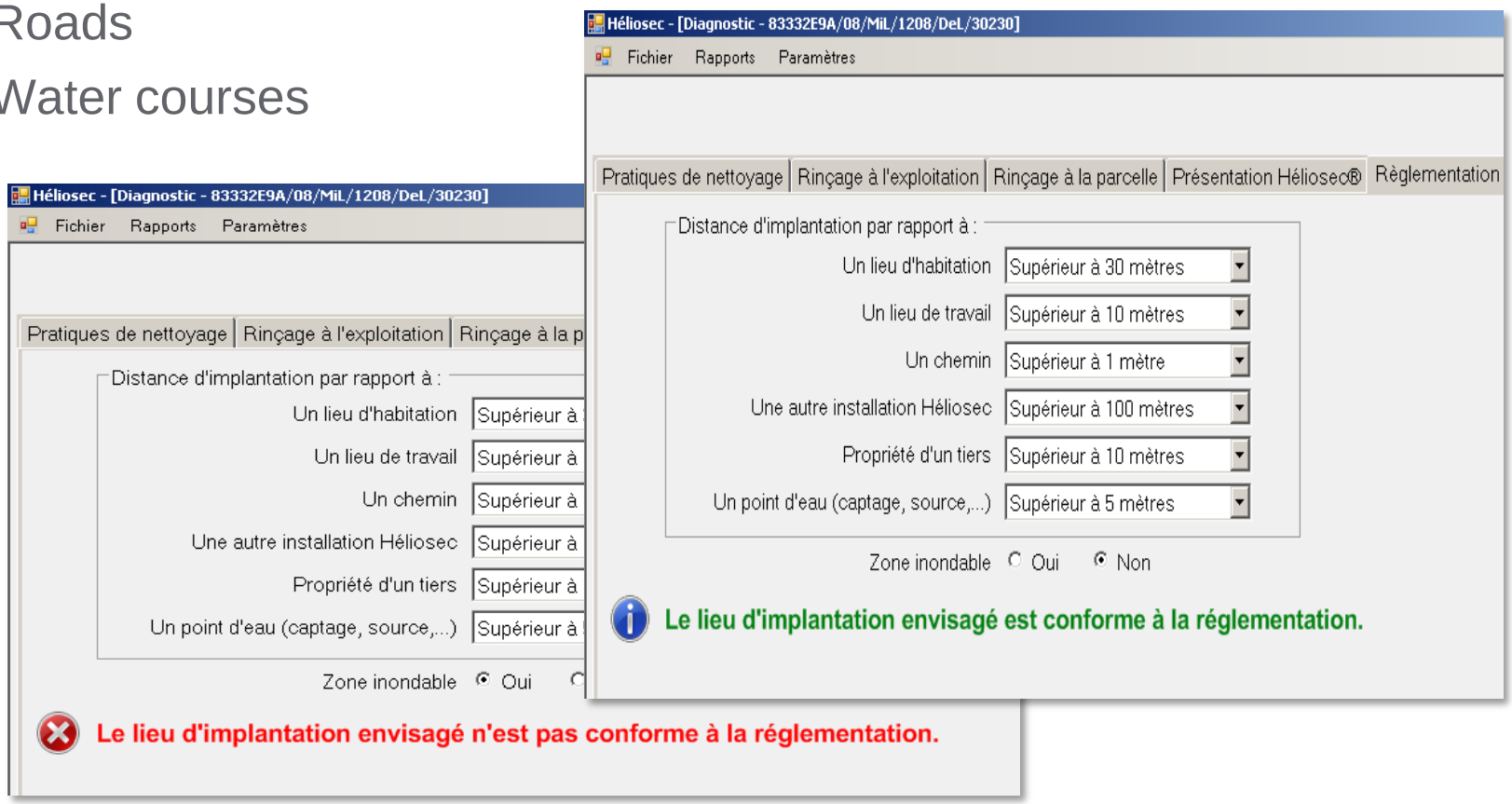
Diagnostic Software

- The diagnostic tool considers the following:
  - Farm characteristics
  - Spray equipment
  - Amount of water used for washing
  - Local evapotranspiration (ET) data
- Recommendations and checklist for installation
- Simulates tank levels with local evapotranspiration (ET) data
  - For estimated quantities
  - For actual quantities
- Graph with 3 curves
  - Blue: Average over last 30 years
  - Green: Best case scenario
  - Red: Worst case scenario



Checklist for Installation

- Recommendations, such as distance from
  - Housing
  - Roads
  - Water courses



*Example only

Software Simulation

Volume d'effluent généré par lavage pour l'ensemble de vos pulvérisateurs:

	janvier	février	mars	avril	mai	juin	juillet	août	septembre	octobre	novembre	decembre
D. 1	0	0	0	0	315	315	0	315	0	0	0	0
D. 2	0	315	630	315	315	315	0	0	0	0	0	0
D. 3	0	0	0	315	315	0	0	0	0	0	0	0

Volume total d'effluent généré durant la période de fonctionnement	3150
Volume total d'effluent généré durant la période de non fonctionnement	315
Volume total d'effluent généré annuellement	3465

Vous devrez peut être prévoir une cuve de stockage intermédiaire.

Example

Number of cleanings: 11

Cleaning with water hose

Volume for cleaning: 300L

Remaining water in tank: 15L

Month	Decades		
	1	2	3
February		1	
March		2	
April		1	1
May	1	1	1
June	1	1	
August	1		

Total volume: 3465L

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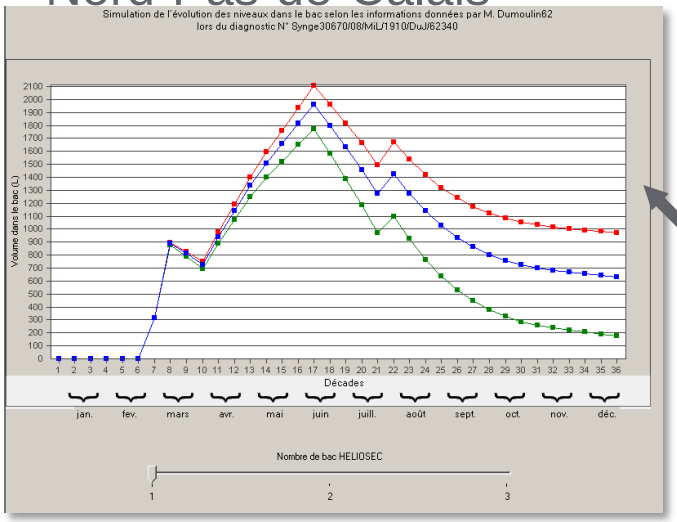
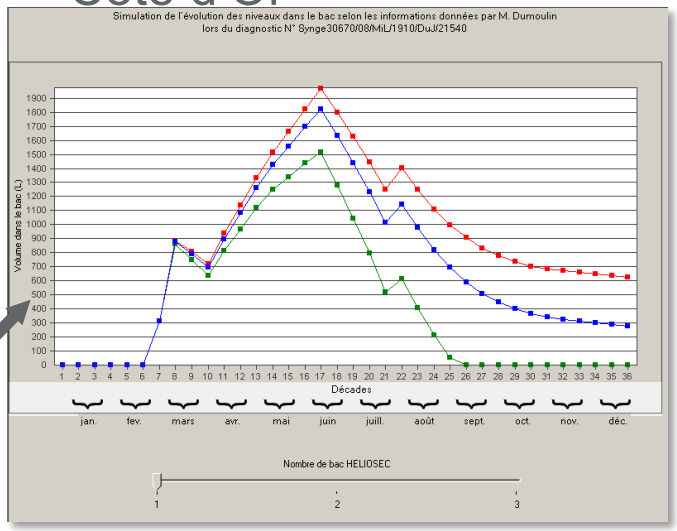
Simulation for identical Water Quantities in different Areas

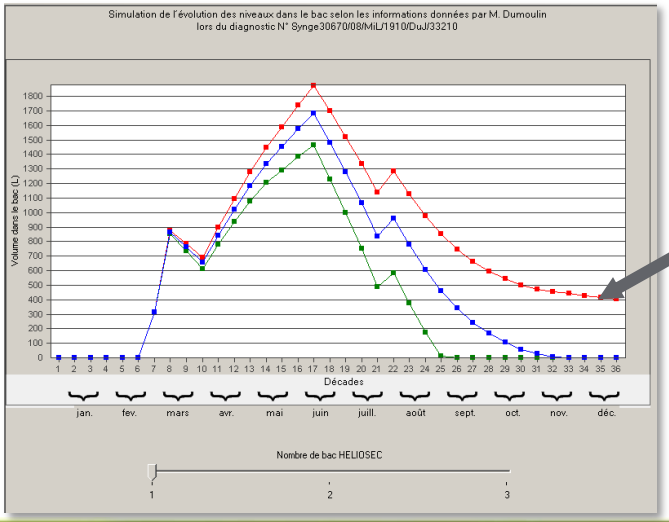
Nord-Pas-de-Calais



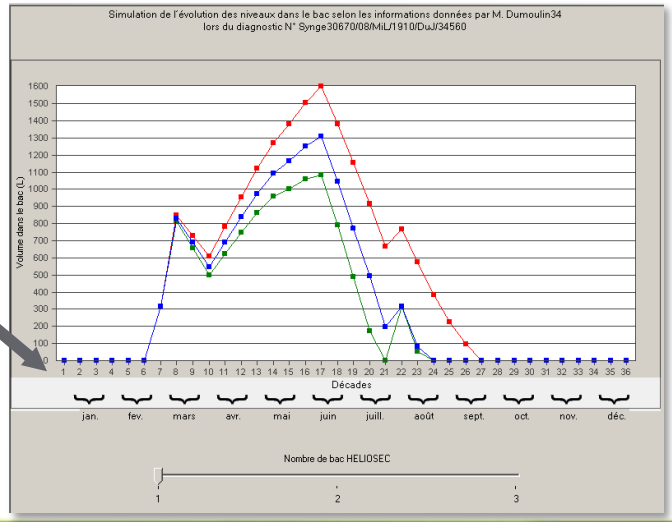
Côte d'Or



Gironde

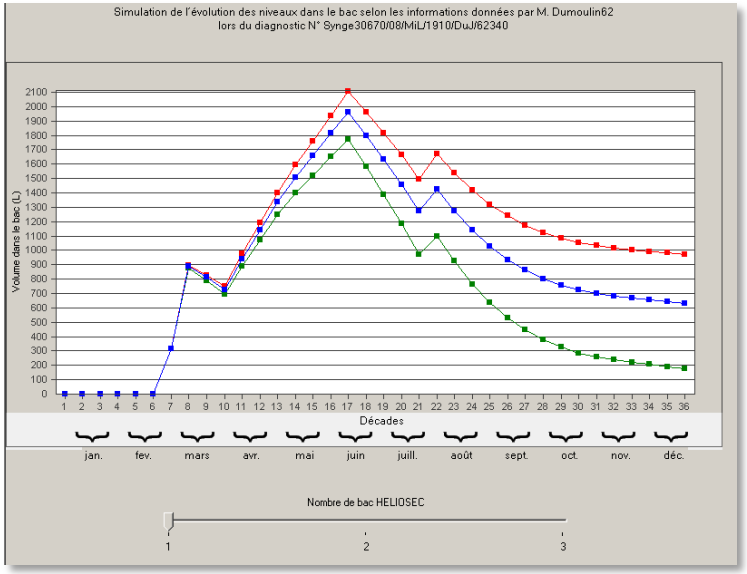


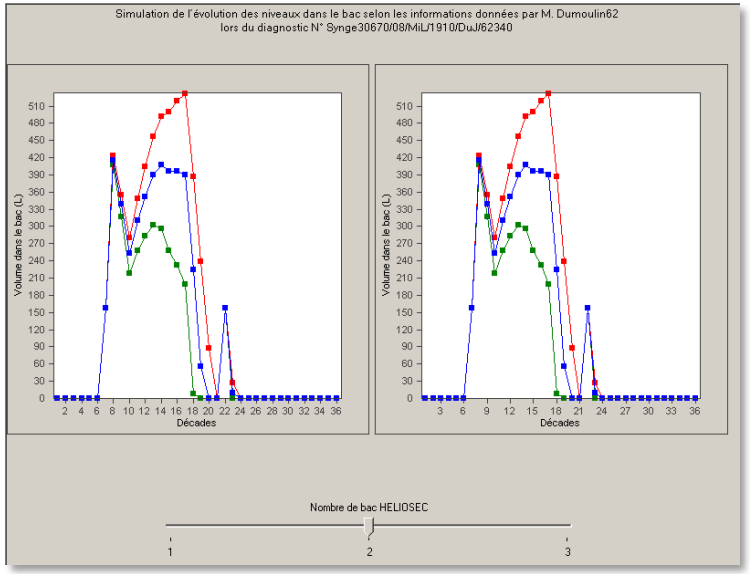
Hérault



Case of Nord-Pas-de-Calais

- 3 Options to make it work
  1. Decrease the quantity of cleaning water used (pressure system)
  2. Decrease the number cleanings
  3. Install a second Héliosec® (only once the water consumption has been optimized)





Summary

- Tailored approach to farm water management
- Simple solution to deal with farm water
  - Easy to install and inspect
  - Minimal maintenance
  - Helps to comply with regulations
  - Very low running cost
- Capacity up to 2500L
- Helps to assess farm water consumption
  - Recommendations on how to decrease the quantity
- Treats copper and sulfur
- Guaranteed removal of all residues captured in tank
- Scaleable