

Use of permanent sprinklers for pesticide applications in Quebec orchards 2010-2011

Vincent Philion



Bernard Panneton

Marlène Piché

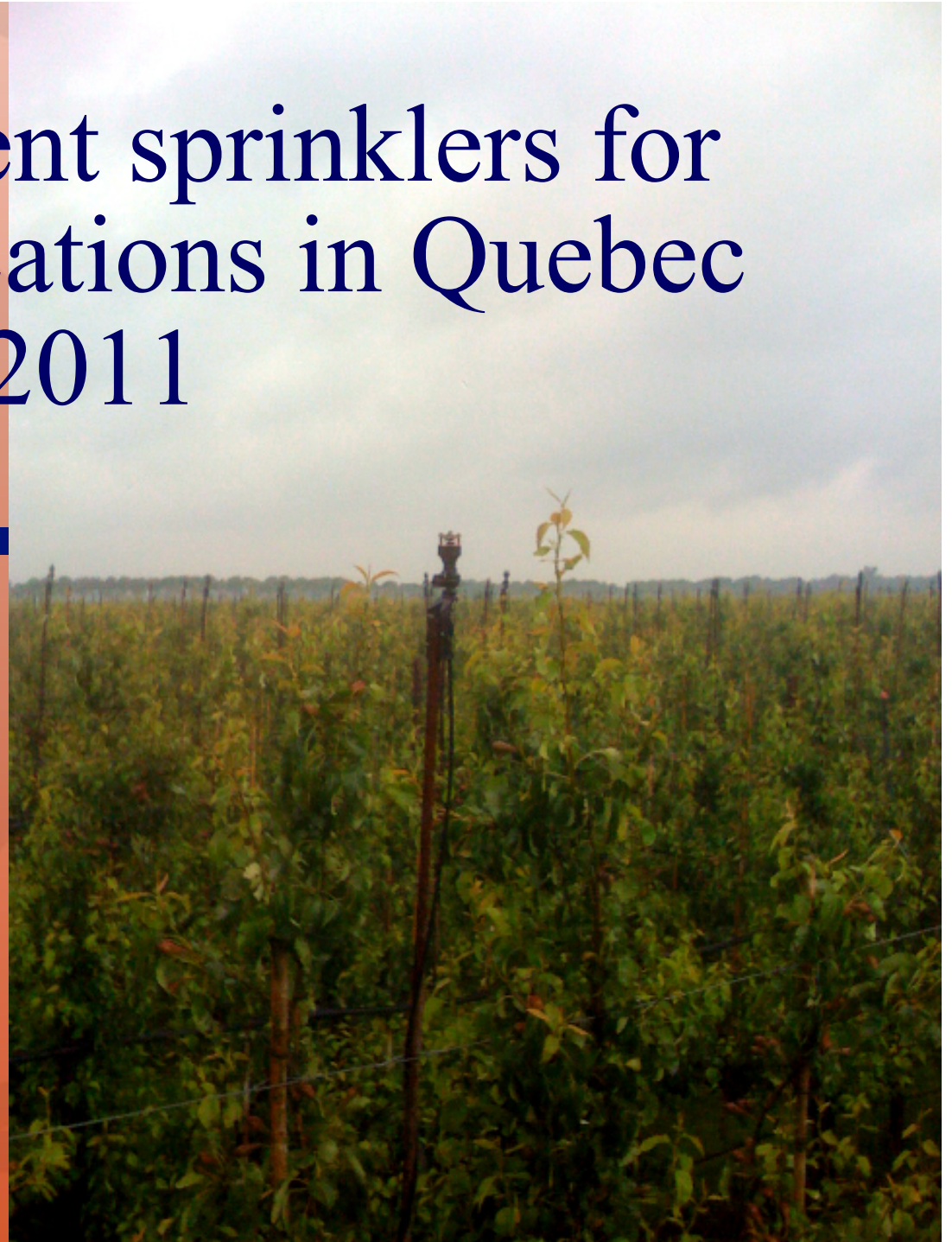
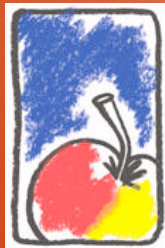


Gérald Chouinard

Peter van Emmerik

Karl Schloffer

Marc Trapman



Rationale

- Drift of pesticide is major concern
- Reduced spraying costs (automation or speed?)
- Reduced soil compaction (wet springs)
- Proper timing of « reduced risk » products

Historical perspective

- 1950's
 - South Tyrol
 - Frost & scab
- 1960's
 - 10,000 acres in use!
- 1980's = Ohio
- 1990's = Austria
- 1998 = Cornell
- 2005 = Netherlands
- 2010 = Quebec (recycling)
- 2011 = Denmark
- 2012 = France
- 2012 = USA





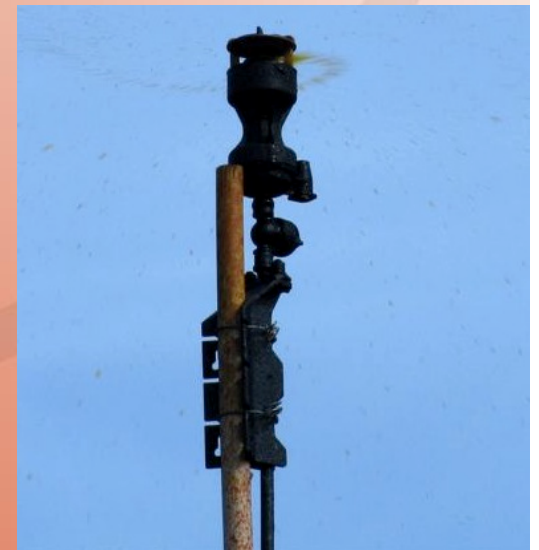
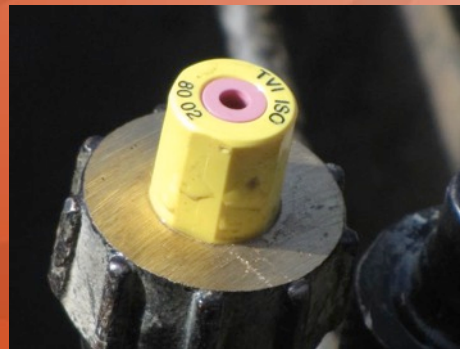
Netherland system

- 5yrs full operation
- 3ha pears
- Semi auto



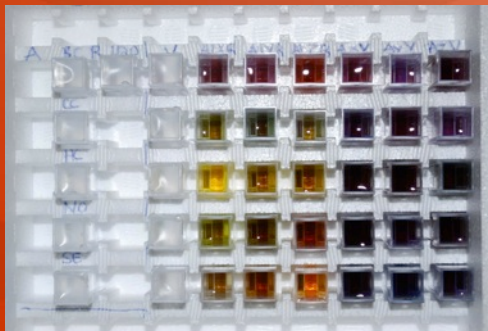
The current project

- 0,8 acre in 2010 & 2011 (3285m²)
- McIntosh on M9 (12' x 4') (2004)
- Standard sprayer vs reduced drift vs Sprinklers
- 4 replications (CRBD)
- Straight comparison 2010 + 2011



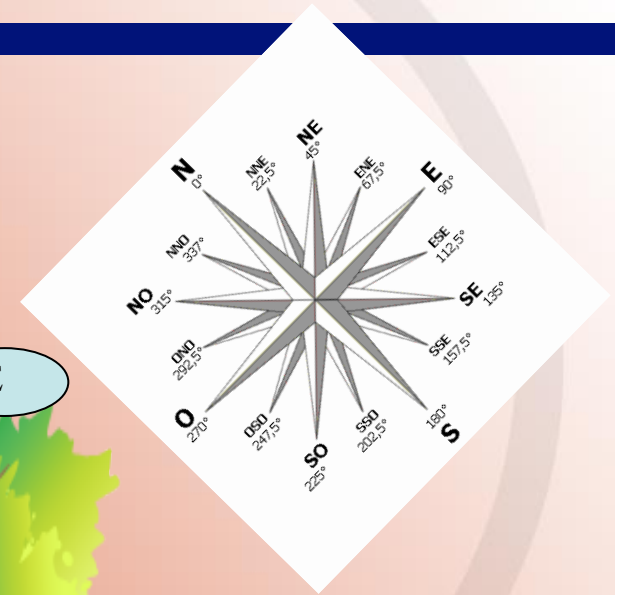
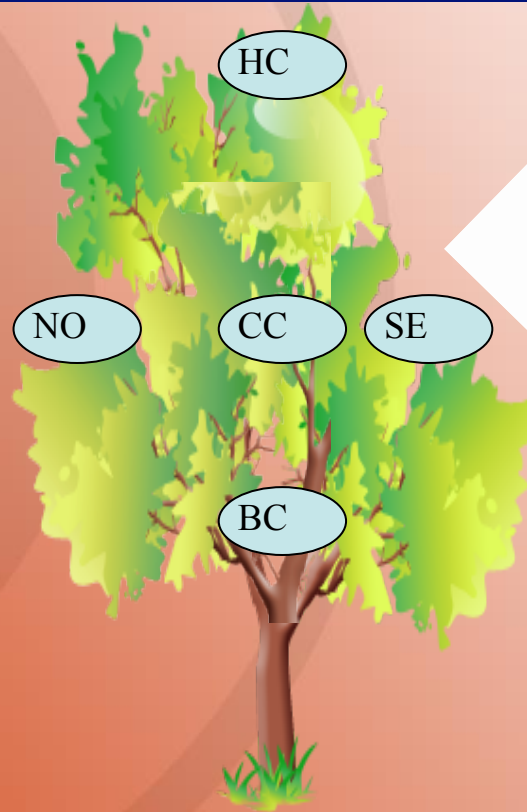
Spray coverage

- Vinyl disks
- Separate colours per treatment
- Three treatments in plot
- Sample and Analysis

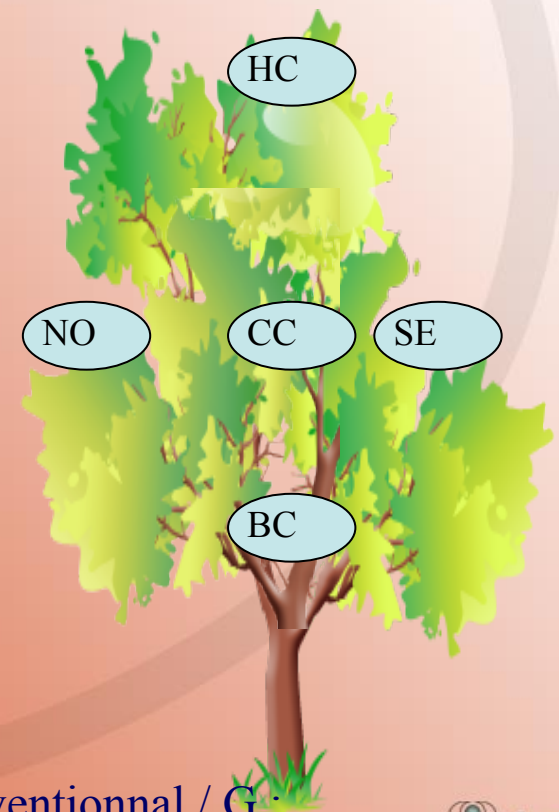
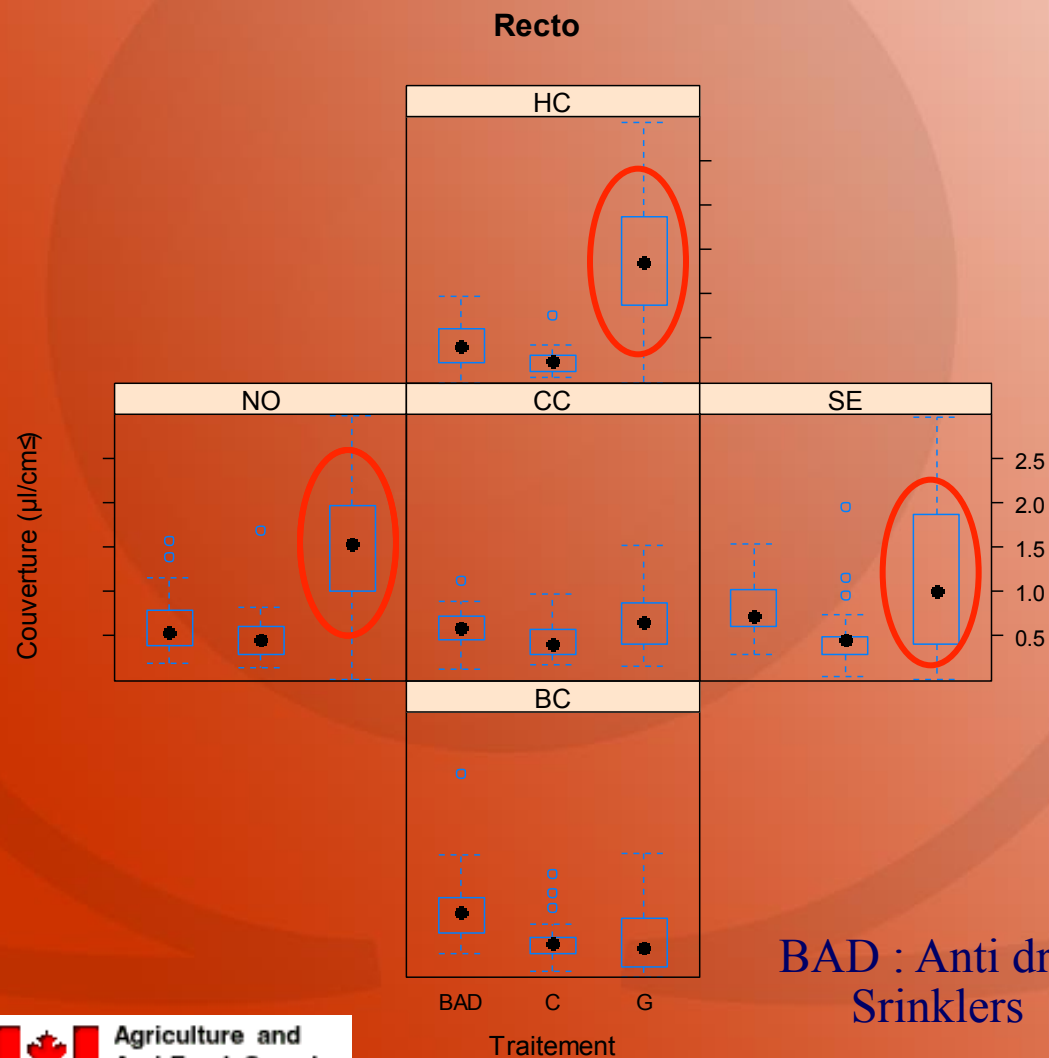


Disk Layout

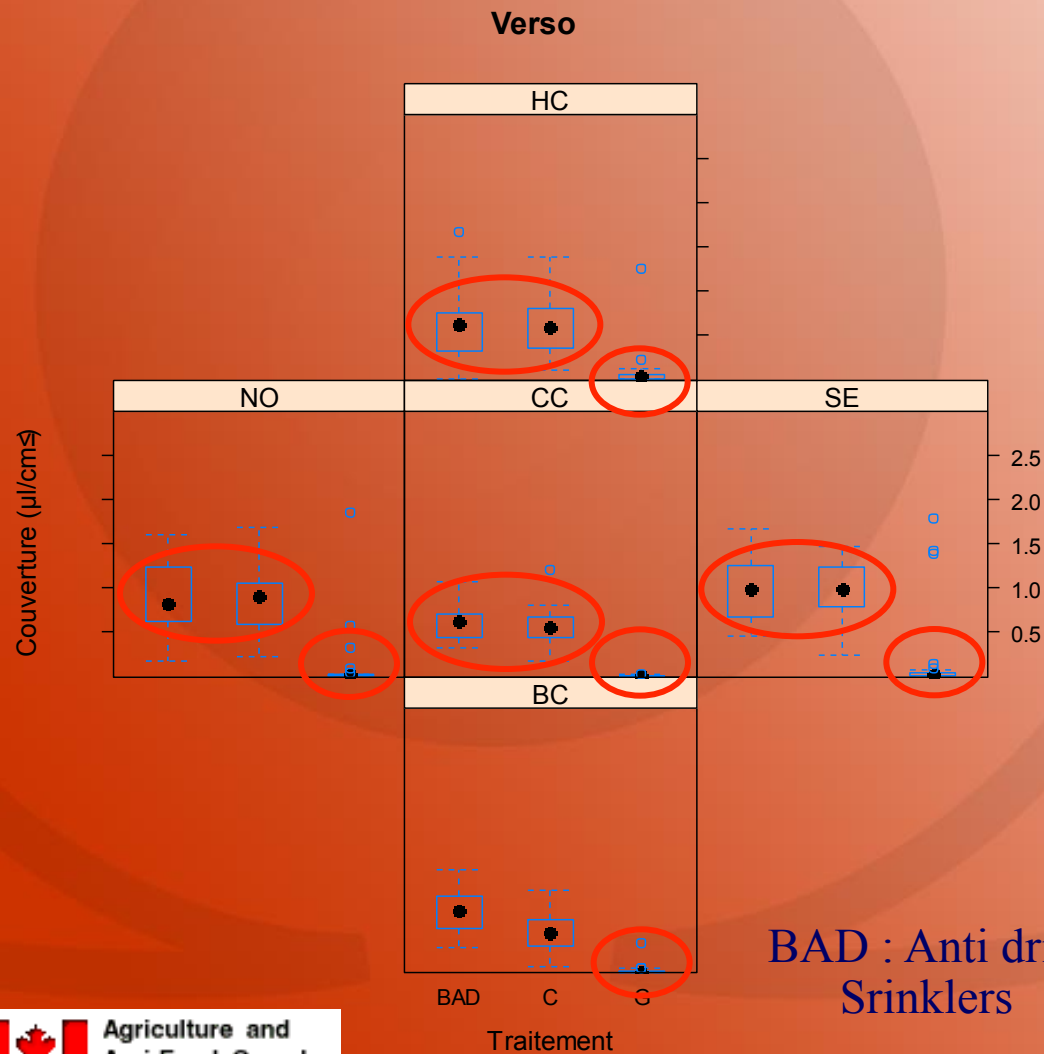
- 1 disk per leaf side
- 5 positions
- 3 rows per plot
- 3 trees per row



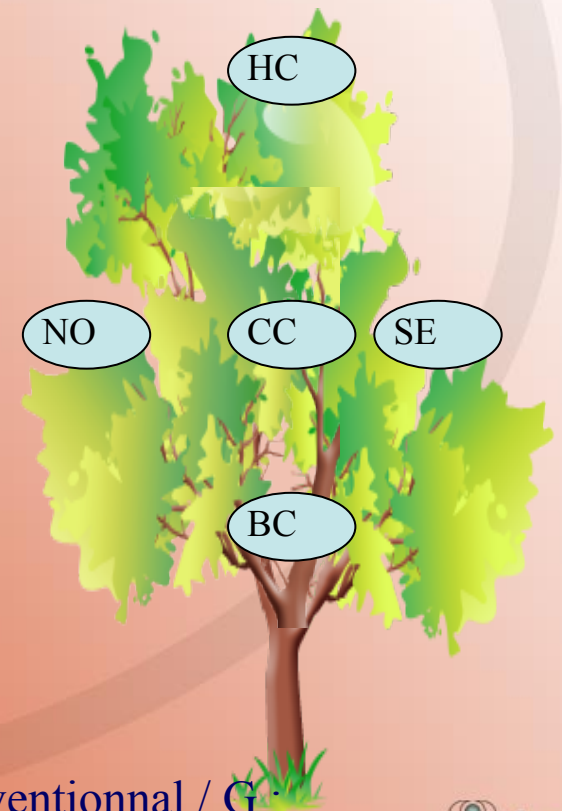
Upper side of leaf coverage



Under side of leaf coverage



BAD : Anti drift/ C : conventionnal / G :
Srinklers



2010 = Easy year for pests

- No scab in plot!
- Tarnished, curculio, sawfly, maggot, codling moth, mites...



2011 = Heavy scab year

- Shoot scab incidence in July = 14% in every plot
- Detailed analysis on every pest = not completed
- Looking good!

What's next...

- Organic program 2012
- Plans to expand ?