

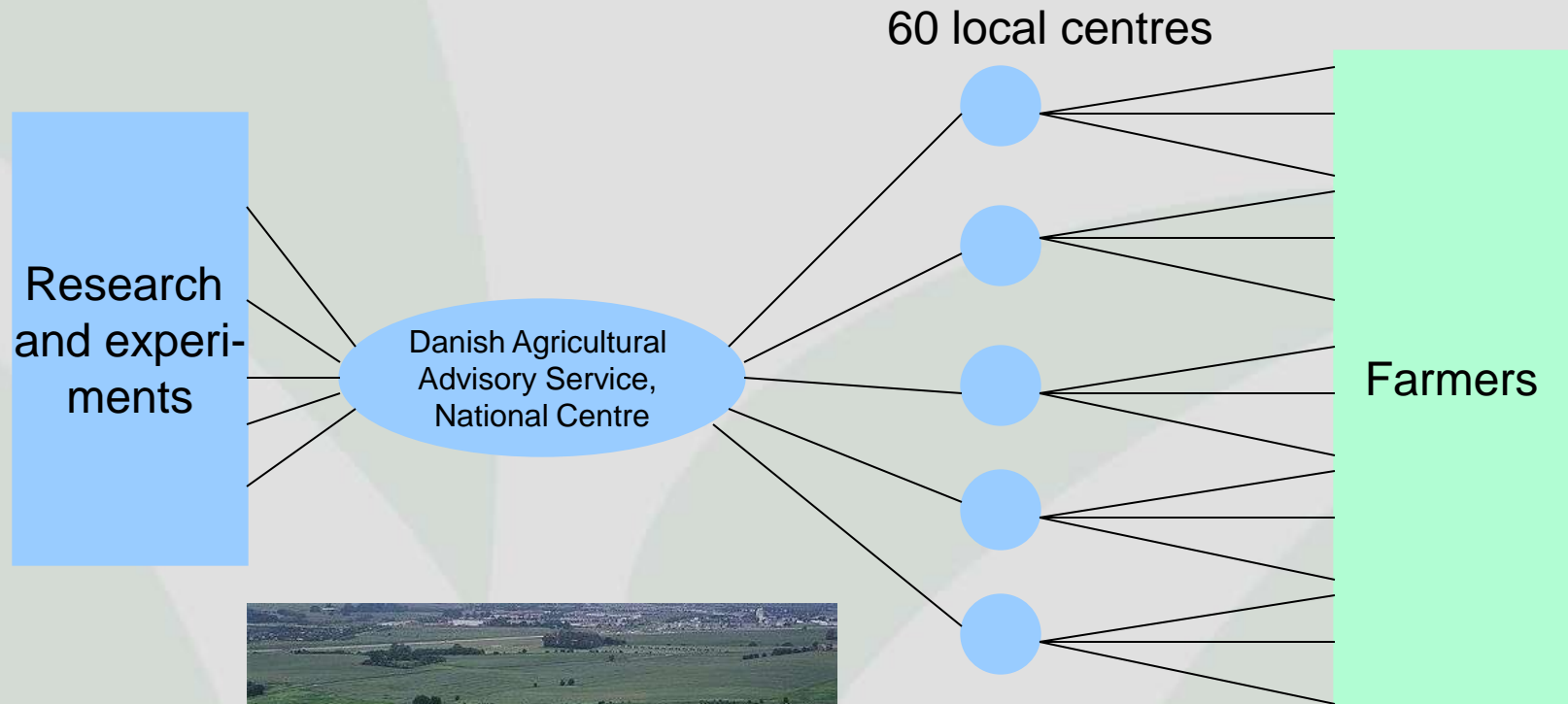
# Handling of washing water and excess spray fluid and why biobeds has not been a Danish solution so far?

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# Danish Agricultural Advisory Service



# Focus on point sources

- Advisory service recognised point sources as a problem about 10 years ago (inspired of results from Hessen, Germany)
- Several investigations have shown, that the concentration under filling-/rinsing areas can be high
- Pesticide Action Plan II (2000-2002) included advisory efforts regarding handling of pesticides on farm
- Pesticide Plan 2004-2009: Advising about handling is included and legislation will be implemented during 2005



**110 advisers have been educated**

**Farm check on 2500 farms**

December 2000

## **Check list for farm handling of pesticides**

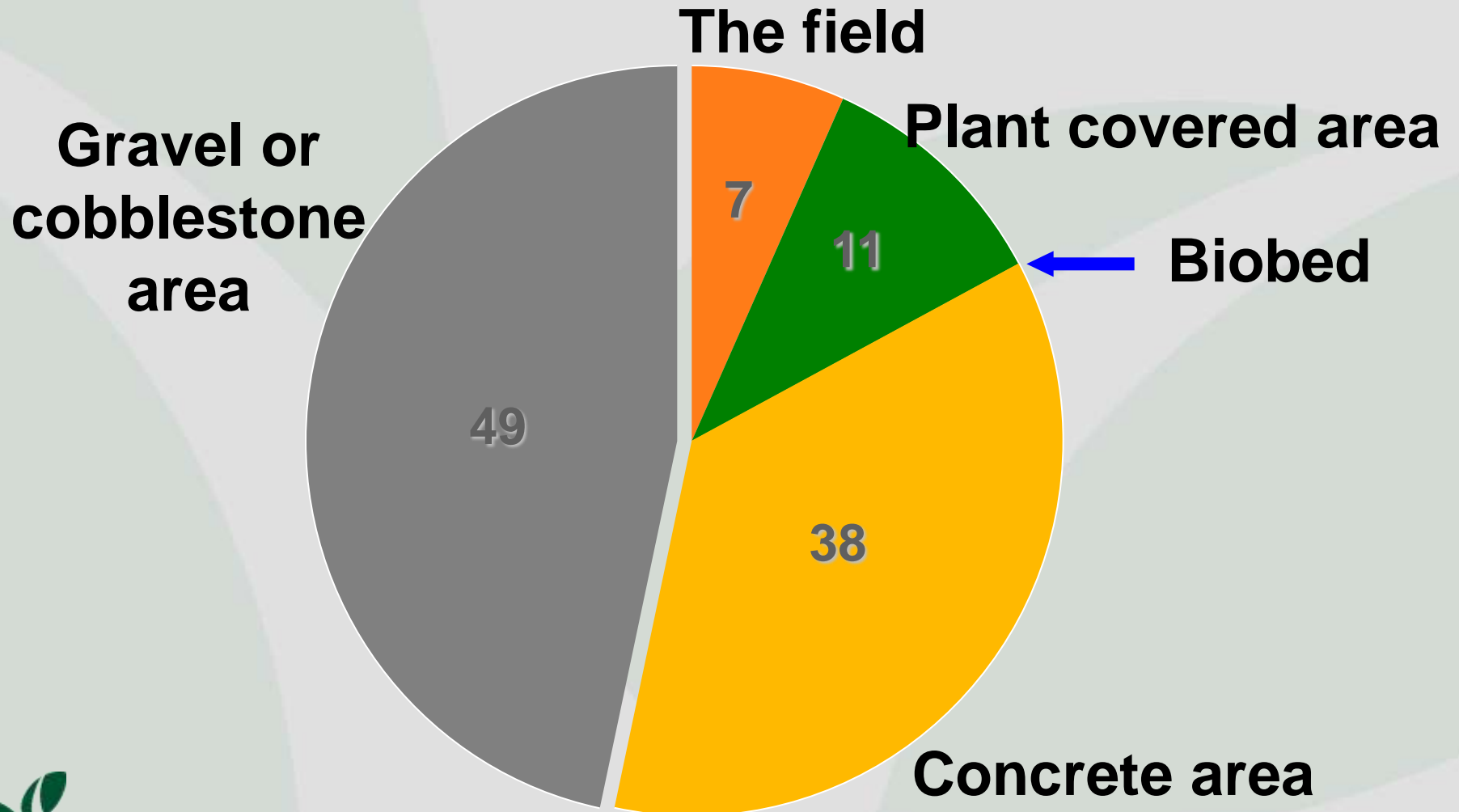


**Landbrugets Rådgivningscenter**  
*Landskontoret for Planteavl*



**Danish Agricultural Advisory Service**  
National Centre

# Filling and cleaning

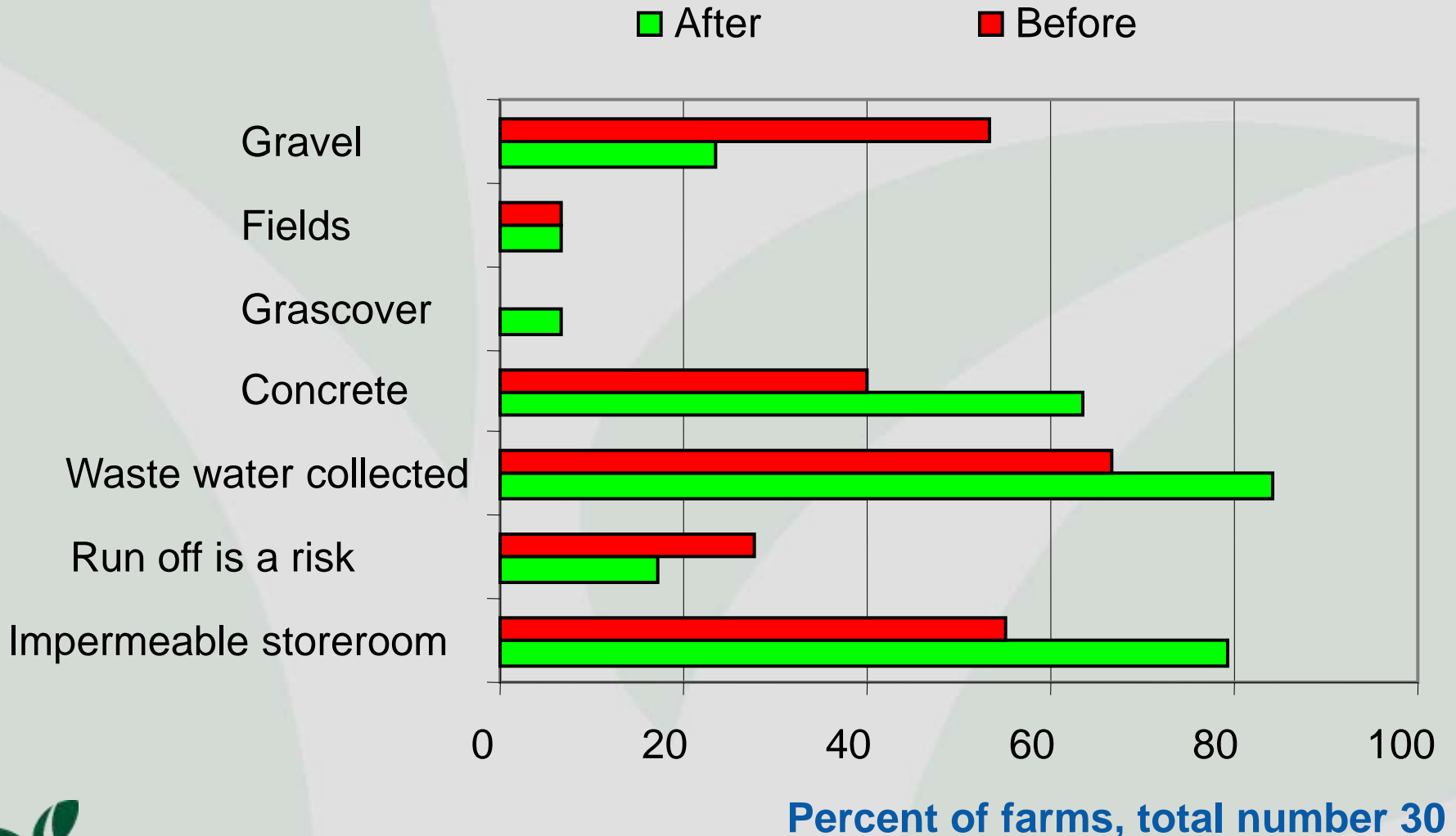


# Conclusions from checks

- Most farmers can handle pesticides better
- Risk for contamination of drain and streams can't be excluded on several farms
- Many farms can do better without any or small investments
- The authorities have not been aware of the risk of point sources



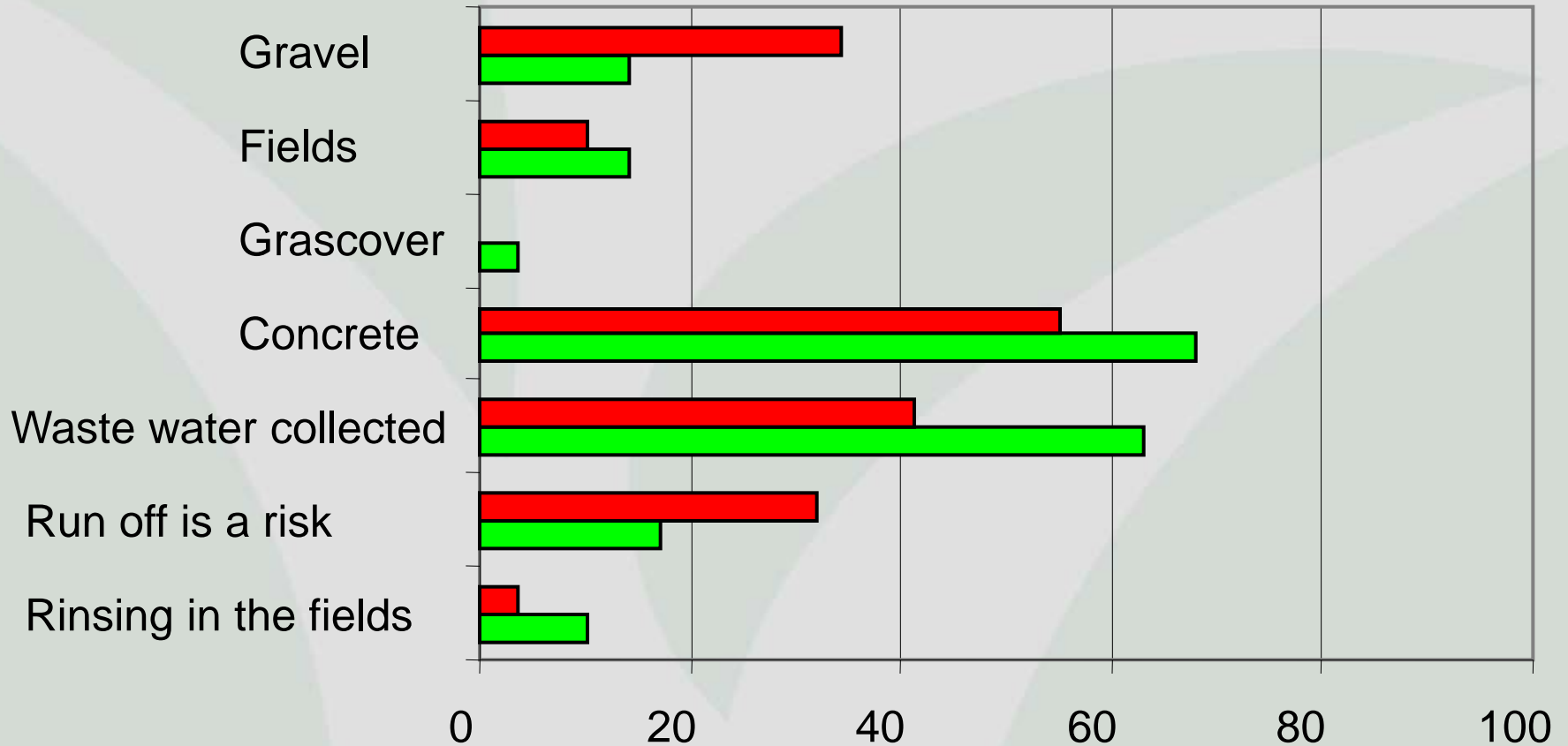
# Effect of giving advice about filling of sprayer



# Effect of giving advice about rinsing the sprayer

■ After

■ Before



Percent of farms, total number 30



# Expert report to the EPA – important statements

- **Filling station for water with a buffer tank and control of overload**
- **Filling tray and rinsing systems will reduce the spill**
- **Inside and outside rinsing of sprayers can be done in the field**
- **Rinse the sprayer outside after every working day**



# EPA is preparing regulation (2005)

- Sprayers:
  - Filling tray
  - Tank with rinse water
  - Flush nozzle
  - Equipments for outside rinsing



# Regulations

- Filling and rinsing:
  - On concrete (catch of waste water)
  - On area with vegetation, different site every time
  - Spreading of waste water collected in slurry is OK
  - Spreading of waste water, eventually after dilution is still a question



# Biobeds

- Concentration in the percolate is exceeding 500 micrograms per litre
- EPA concludes, it will be a point source
- That's why biobeds (permeable) seem not to be a solution



# Danish farms

- 14.500 farms < 30 ha
- 16.500 farms 30-100 ha
- 7.600 farms > 100 ha – average 178 ha and growing 5 ha every year



# Different solutions

Smaller farms growing cereals	Area with vegetation
Farms with slurry tanks	Concrete plate with collection of waste water in slurry tank
Larger farms or specialised farms with plant production	Concrete with collection of waste water in tank
Contractors	Concrete with collection of waste water in tank
	Sprayer with injection system



## Udenomsfaciliteter

Ramper, pladser og veje

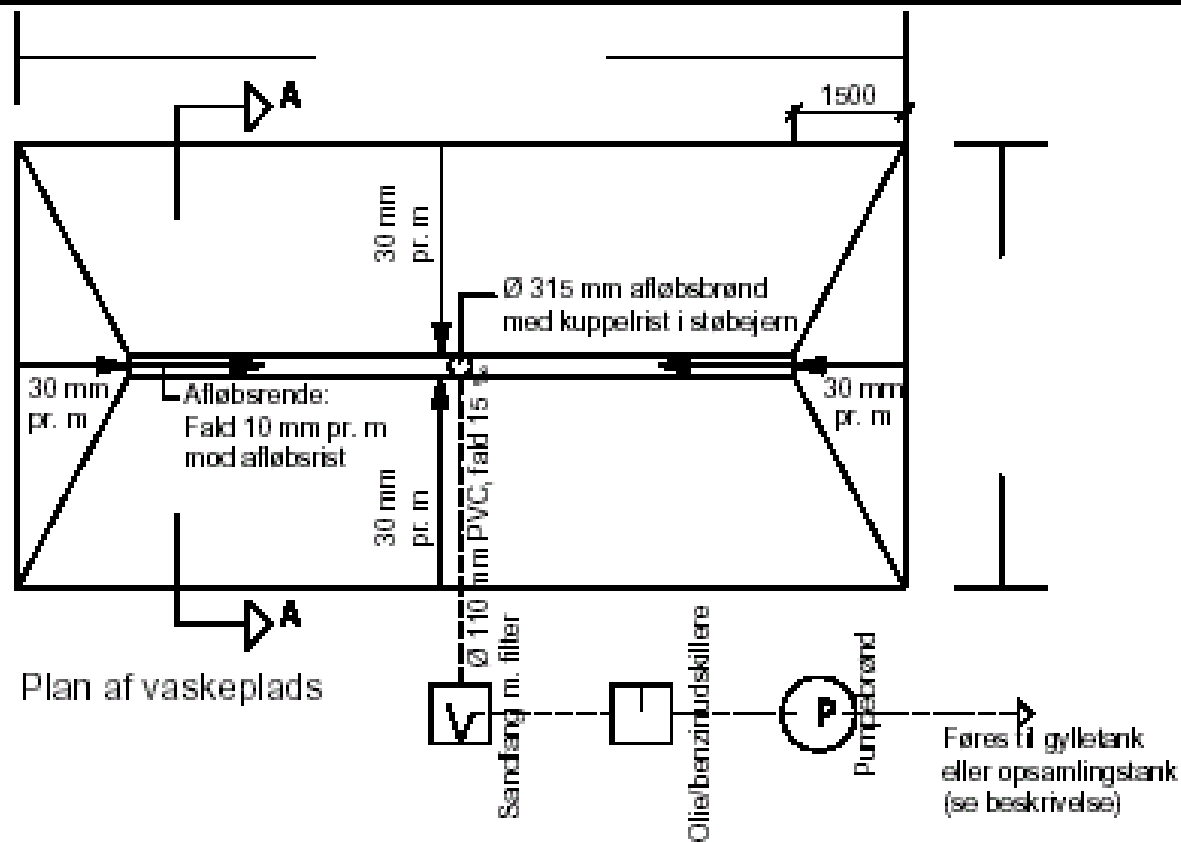
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# Danfoil injection system

- Rapid switch between pesticides
- Large capacity – mainly used by contractors
- No contamination in the sprayer tank





**Regulation as well as  
advising is necessary to  
avoid point sources**

Photo: Hans Thostrup