

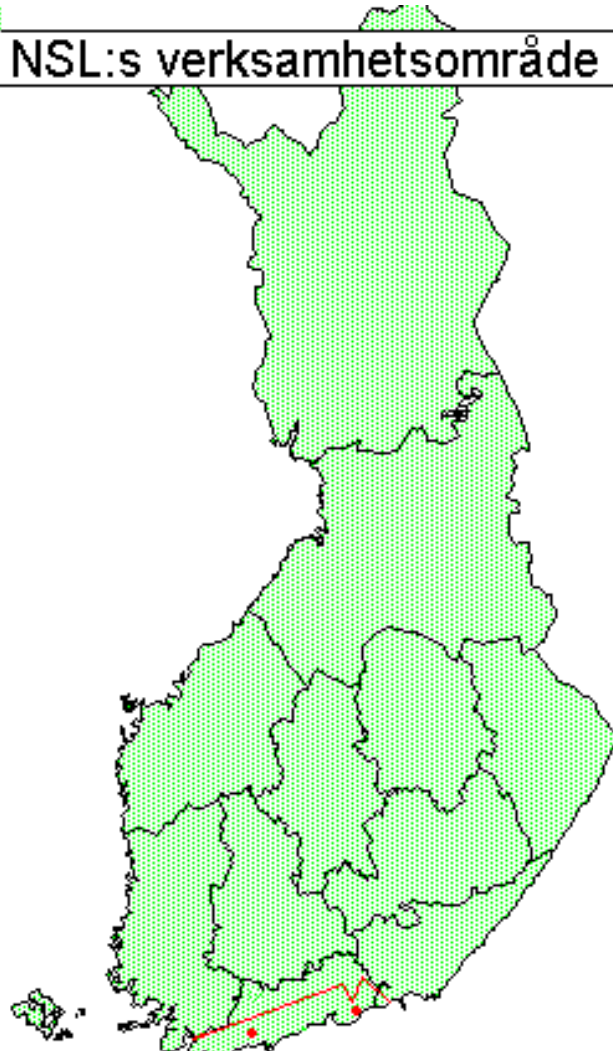
# **Experiences of Wheat dwarf virus in Finland 2004-2007**

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# NSL:s verksamhetsområde



## **The occurrence of Wheat dwarf virus (WDV) 2004-2007**

- WDV was first found in samples from Ekenäs, Sjundeå and Sibbo in 2004
- The first samples of winter wheat were analyzed by Swedish University of Agricultural Sciences
- WDV probably occurred already in 2003 according to symptoms reported by farmers
- The occurrence was general and infestations were severe in 2004
- In 2005 and 2006 very few reported cases
- In 2007 WDV was again reported, but the occurrence was not as general and the infestations were not as severe as in 2004

**Estimated yield reductions in winter wheat  
(based on observations made by advisors and farmers):**

2004:

- usually 20-40%
- in some cases up to 100%

2007:

- appr. 5-15%

# WDV 2004

 WDV-positive plants



**Paimio**

**Somero**

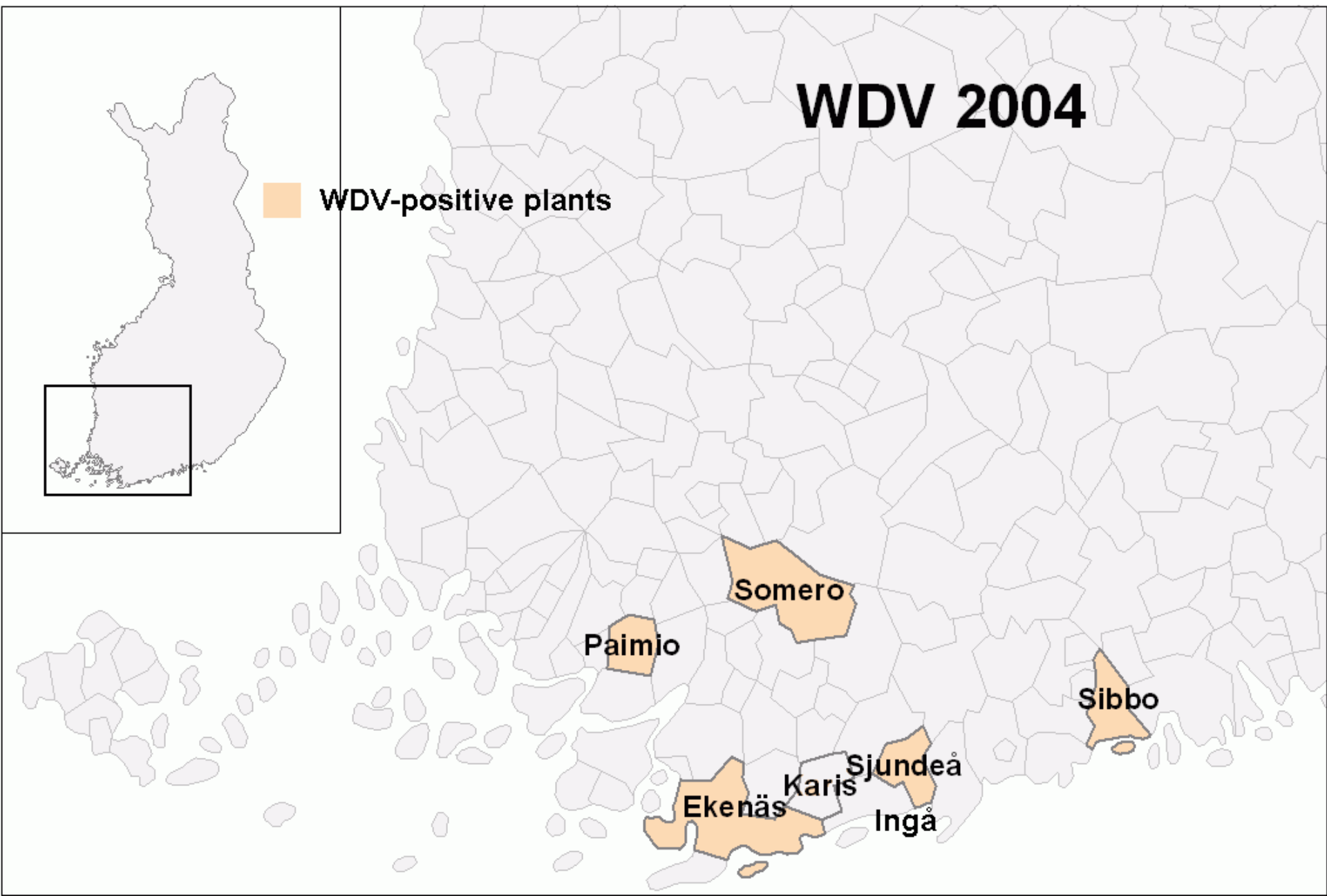
**Sibbo**

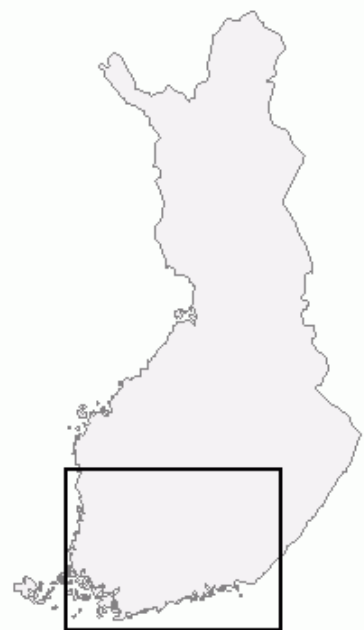
**Ekenäs**



**Karis**

**Sjundeå**

**Ingå**





-  WDV-positive plants
-  WDV-symptoms observed by NSLs advisers

# WDV 2007

Vahto

Somero

Vichtis

Sjundeå

Ingå

Liljendal

Pernå

Borgå

Lappträsk

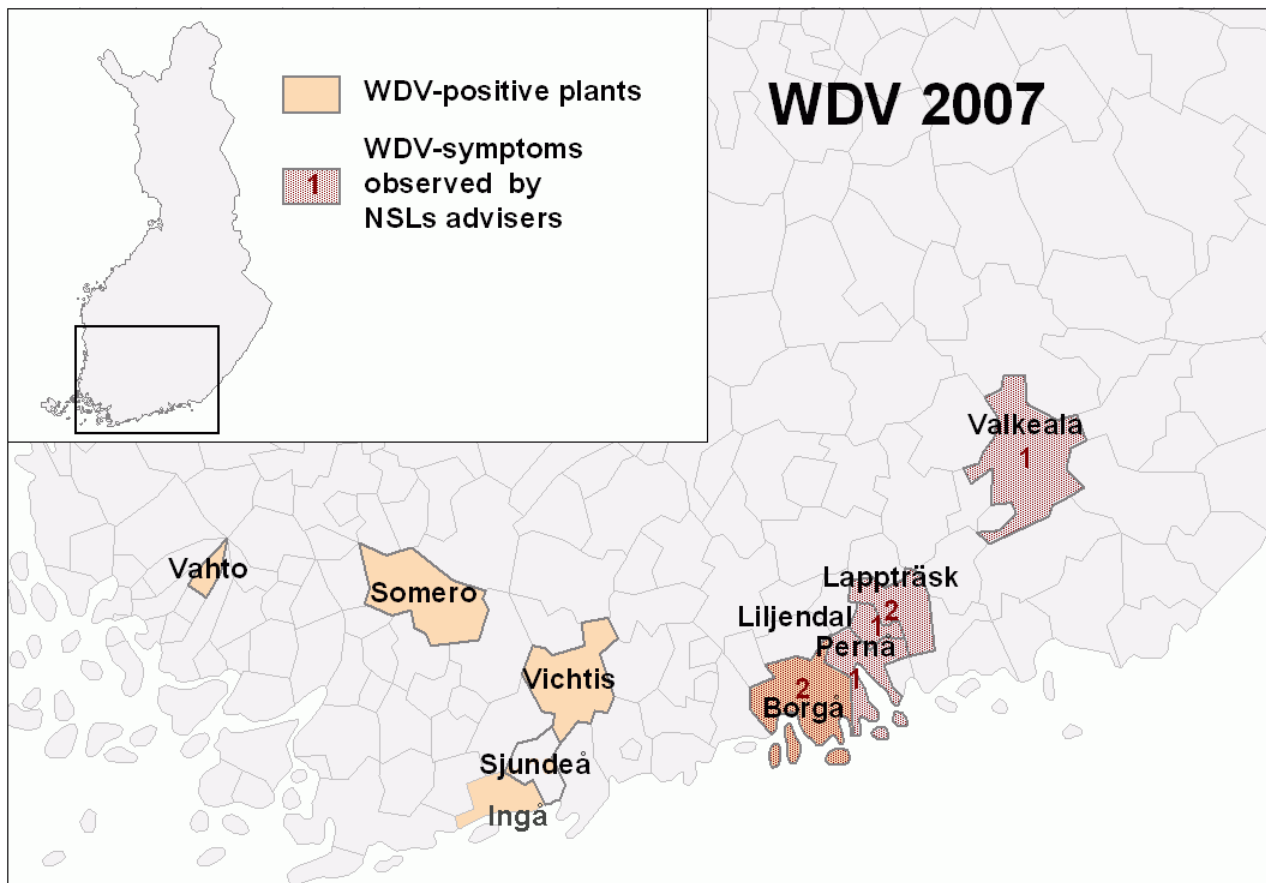
Valkeala

1, 2

1, 2

1

1



Location	Tillage	Preceding crop	Sowing date	Yield reduction
Borgå	Direct drilled	Spring turnp rape	10.09.2006	15 %
Borgå	Direct drilled	Spring turnp rape	05.09.2006	15%
Lappträsk	Reduced	Spring turnp rape	01.09.2006	10 %
Lappträsk	Reduced	Peas	28.08.2006	15 %
Pernå	Reduced	Winter wheat	15.09.2006	5 %
Liljendal	Reduced	Winter wheat	02.09.2006	15 %
Valkeala	Reduced	Spring turnp rape	12.09.2006	10 %

# WDV in winter wheat in 2004





## WDV in winter wheat in 2004



## **Influencing factors based on field observations 2004 and 2007**

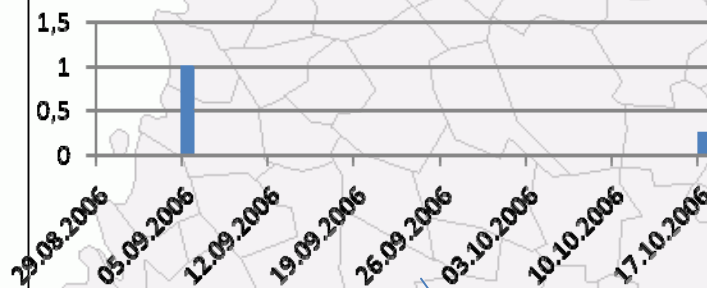
- The tillage was the most important factor
- The incidence was higher in direct drilled fields or fields with reduced tillage (more plant residues on the surface)
- The preceding crop important
- Early sowing in Finland?
- Direct drilling and reduced tillage have increased rapidly in Finland in the last 10 years
- Area of grass (set aside) have increased since 1995.

## **Preventive measures**

- Due to the random occurrence of WDV, forecasting is important
- Leafhoppers were monitored with sticky traps in 2004 in collaboration with MTT (Agrifood Research Finland)
- More systematic monitoring since 2005 organized by MTT

# Monitoring of leafhopper 2005 (*Psammotettix alienus*)

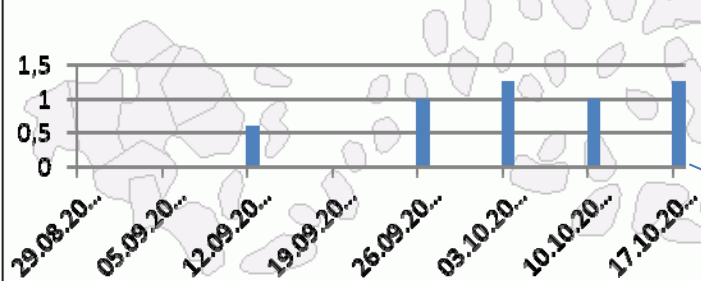
## Ingå, 2005



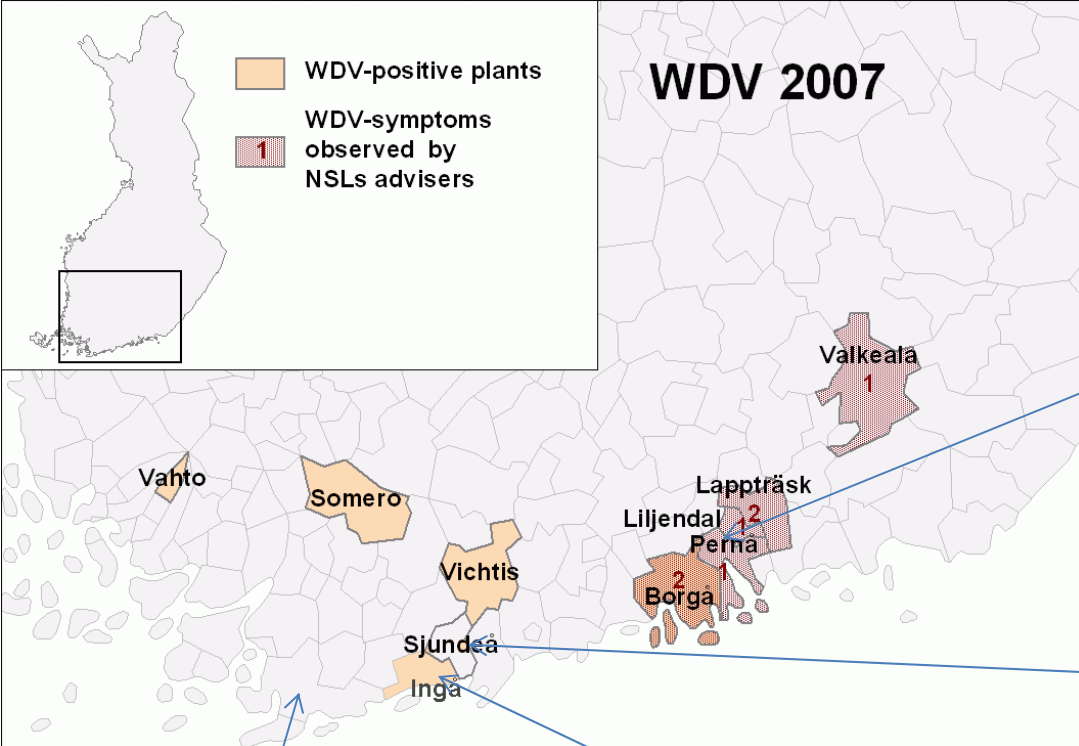
## Sibbo, 2005



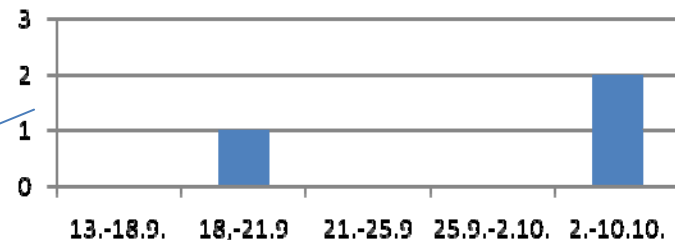
## Tenala, 2005



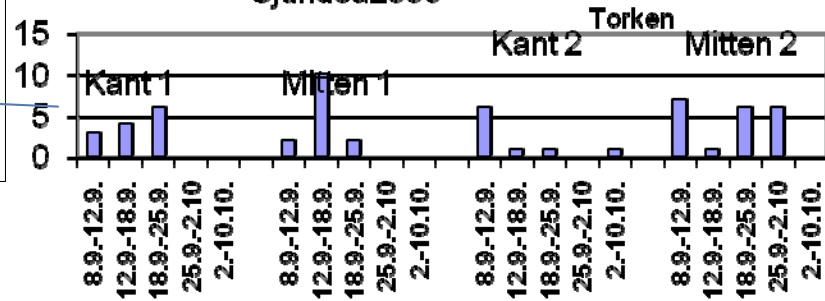
Somero  
Paimio  
Sibbo  
Ekenäs  
Karis  
Sjundeå  
Ingå



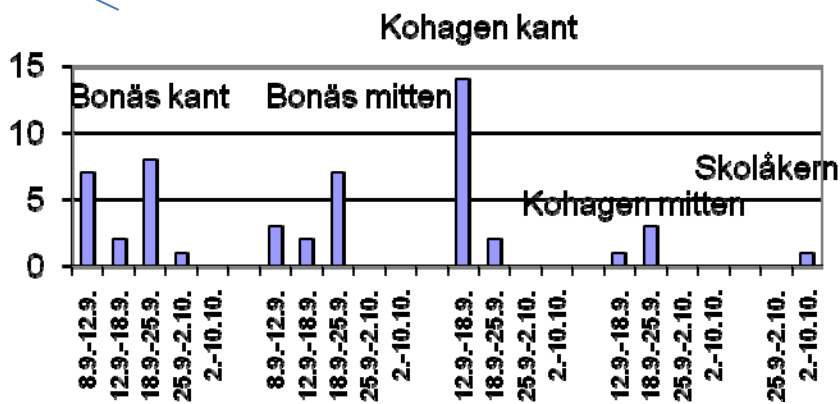
Monitoring of the leafhopper 2006  
*(Psammotettix alienus)*  
 Pernå 2006



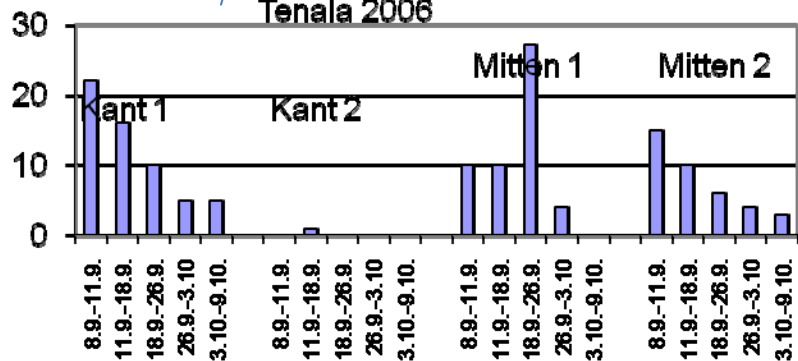
Sjundeå 2006



Ingå 2006



Tenala 2006



Field trials:

- Control of the leafhopper with seed dressing and spraying
- NSL/Syngenta, seed dressing, autumn treatment
- NSL/MTT , spring treatment – timing
- MTT