

## Sprayer for CULTAN – Christophe Bommès

**Starting something new-  
start smart!**

Sprayer for CULTAN ?



**Possible with droplegs !!**

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## Hessleskew Farm, Sancton, York

- 200 ha Farm
- Seed potatoes
- Cereals
- OSR
- Vining peas
  
- Injection since 2007
- sCTF since 2010

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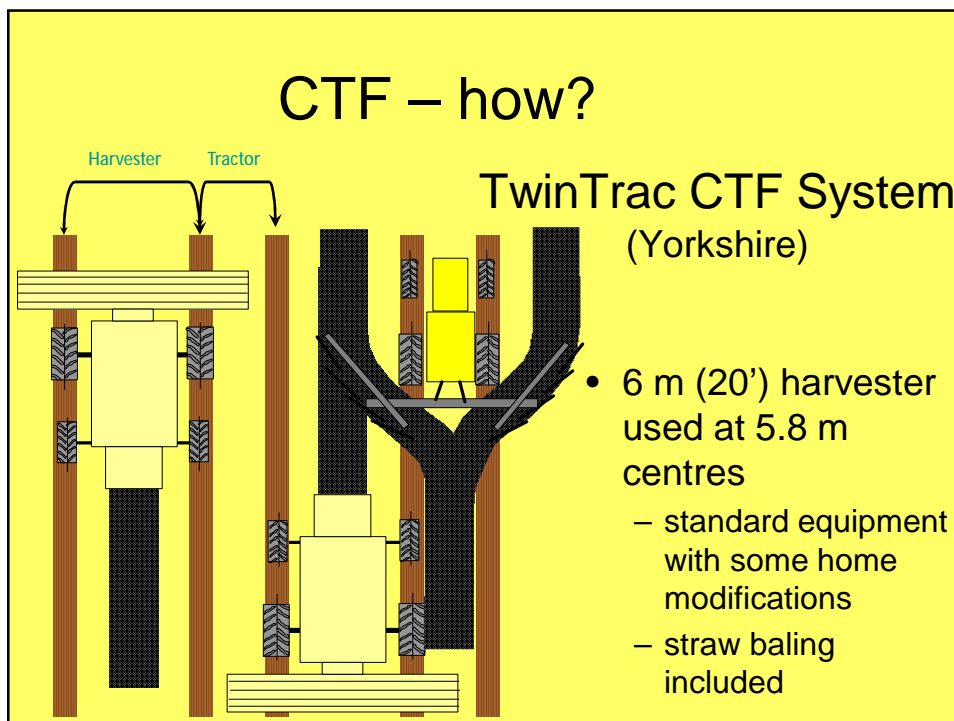
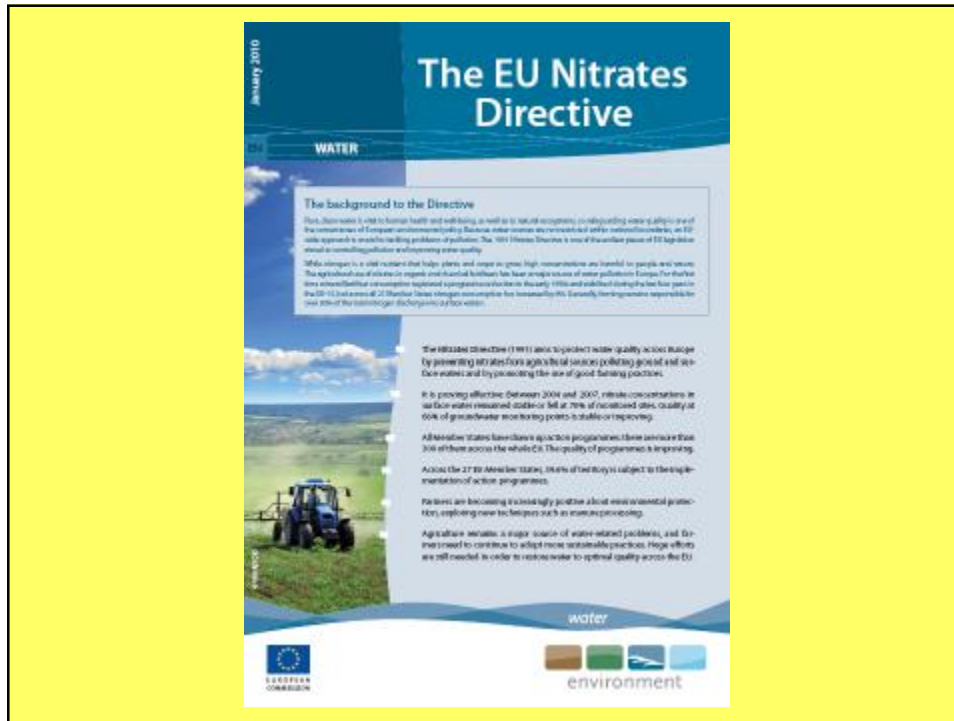
Stoney, shallow, over chalk



## Low Nutrient Availability

Analysis	Result	Guide	Interpretation	Comments
pH	7.9	6.5	High	Possible interference on availability of Mn, B, Cu, Zn, Fe.
Phosphorus (ppm)	12	46	Low	(Index 1.3) 180 - 230 kg/ha P2O5 (144 - 184 units/acre).
Potassium (ppm)	111	241	Low	(Index 1.8) 326 kg/ha K2O (260 units/acre).
<b>Magnesium (ppm)</b>	70	100	Slightly Low	(Index 2.6) PRIORITY FOR TREATMENT.
Calcium (ppm)	5723	2000	High	Possible interference on availability of Mg, Mn, Zn, B, P, K, Fe.
Sulphur (ppm)	4	10	Very Low	CONSIDER TREATMENT.
<b>Manganese (ppm)</b>	131.0	110.0	Normal	Adequate level.
Copper (ppm)	2.0	2.1	Normal	Adequate level.
Boron (ppm)	2.07	0.50	Normal	Adequate level.
Zinc (ppm)	3.3	4.1	Slightly Low	Low priority on this crop. Other crops may be affected.
Molybdenum (ppm)	0.12	0.20	Slightly Low	Low priority on this crop. Other crops may be affected.
Iron (ppm)	206	200	Normal	Adequate level.
Sodium (ppm)	41	90	Very Low	Not a problem for this crop.
C.E.C. (meq/100g)	16.2	15.0	Normal	Cation Exchange Capacity indicates a soil with a good nutrient holding ability.

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Hessleskew Spring 2007



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## Tailor made solution



## Multiple benefits of injection

- Accuracy
- In the moist root zone so reliable uptake
- Beneficial effects of high ammonium applications – the 'depot' effect



**MAN TERRA LIMITED**

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## Hessleskew 2008 OSR



## Effect of Rhizosphere (root) PH

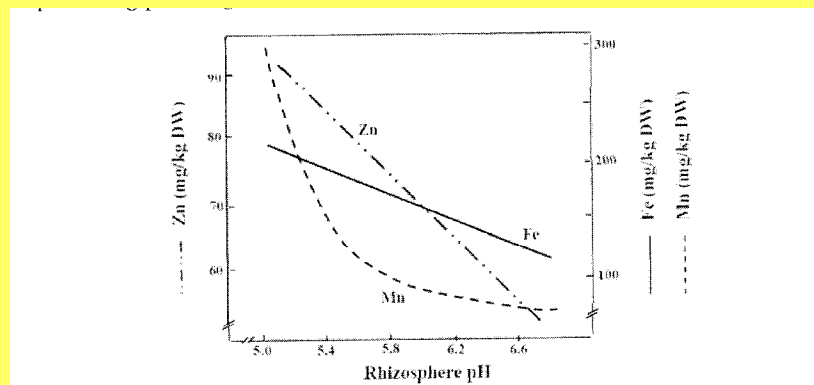


Figure 16: *The influence of  $NH_4$ -nutrition in depressing rhizosphere pH of dwarf French bean (*Phaseolus vulgaris* L.) with related increase in uptake of the micronutrients Zn, Mn and Fe (Sarkar and Wyn Jones, 1982).*

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## Effects of CULTAN

- Lower N-amounts applied (from 250 to 200 kg/ha N anticipated)
- Protein Quality not decreased

## SBG Innovatie, NL

- Established in 2003 (3 students)

Some milestones:

- 2005:
  - introduction first auto steer
- 2007:
  - Introduction of implement guidance
    - plough, side-shift, TWIN



SBG, Holland



Navtronics, Belgium



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Tractor and implement steer  
**SBGuidance TWIN**



18/45 – “Volume” barley



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Prototype steered band seeder



Prototype steered band seeder



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## Prototype steered band seeder



SBG Innovatie BV

### Milestones

- 2009: Introduction GeoSTAR 200 terminal



- 2009 – cooperation with John Deere  
introduction implement steering:  
JD-iSteer



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## Smartbase - Mobile Base Station

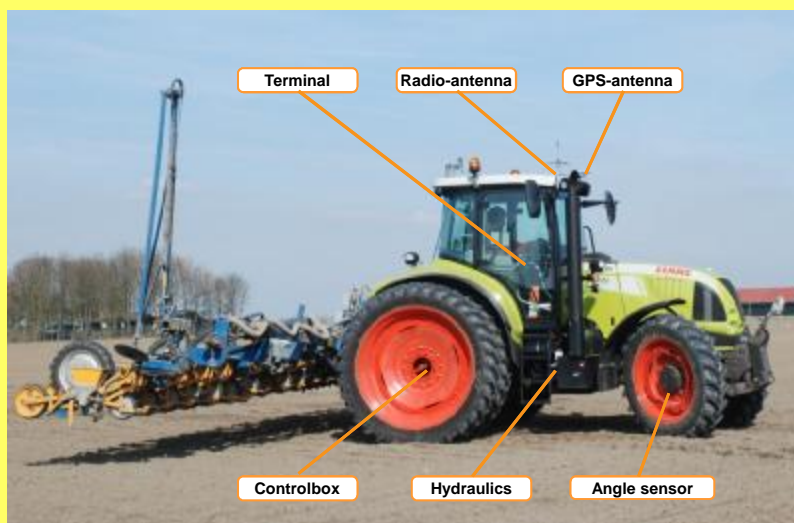
Behaves like a fixed base:-

Reference points can be stored and returned to at a later date

A reliable, self-contained solution to the RTK signal problem



## SBGuidance Auto



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## Benefits of CTF

- Better soil structure for deeper rooting
- Lower fuel consumption
- Perspectives to 45 cm row drilling on all crops

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Hof Brammer  
Brammer Farm



Kreuzhorst, Germany



A case study of conversion  
to MinTill



Viel Erfolg dabei!  
Success!

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## Getting costs under control

Approaches for a farm operation

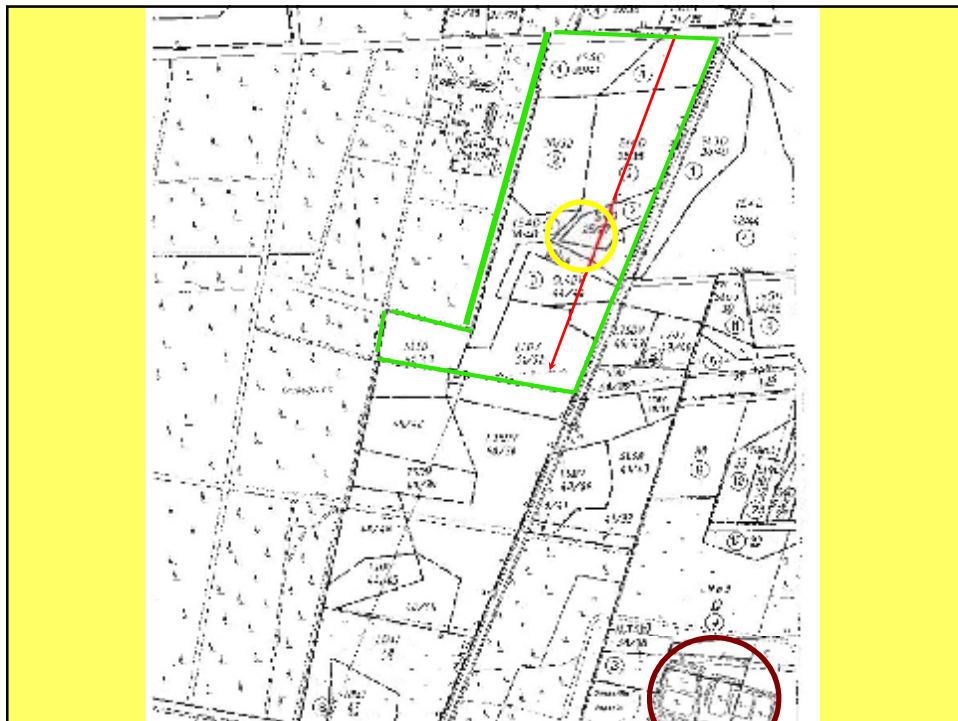
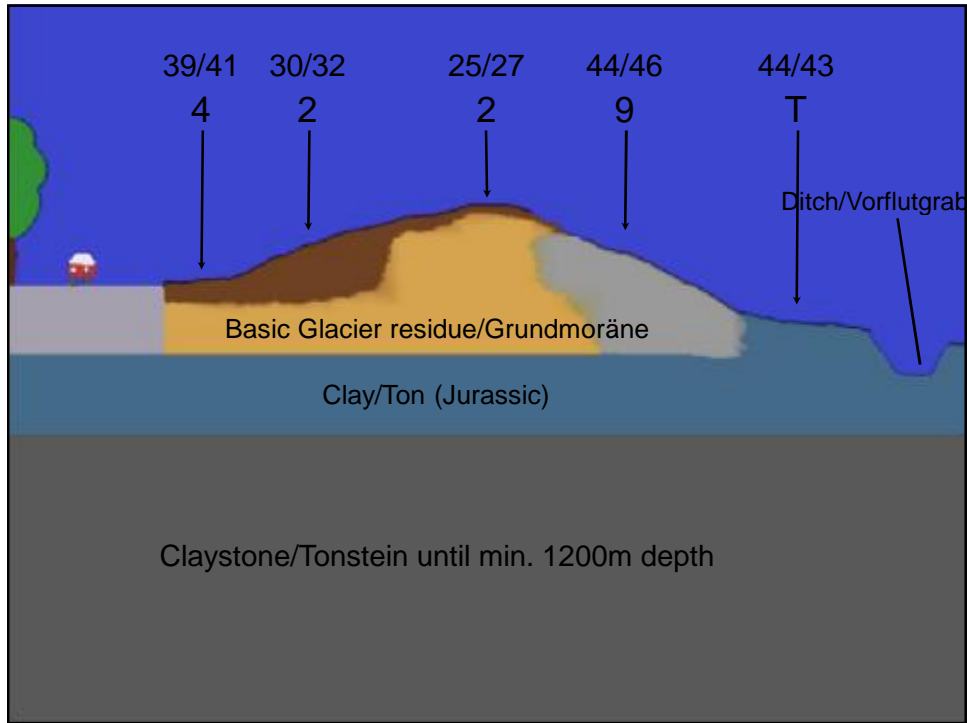
- Carsten Brammer
- Kreuzhorst
- Rehburg-Loccum

## Perspectives, steps and phases

- Conversion to MinTill
- Tractor(s)



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## Pros and Cons of Mintill

### pros

- Labour requirements
- Avoiding Erosion
- Soil strength - Drivability
- Good experience yet in sugar beet crop

### cons

- Groundwater soils not supposed to be adequate for mintill
- Compaction of sandy soils
- Existing compaction
- Grassweed problems

### •Conversion to Mintill

- Drill

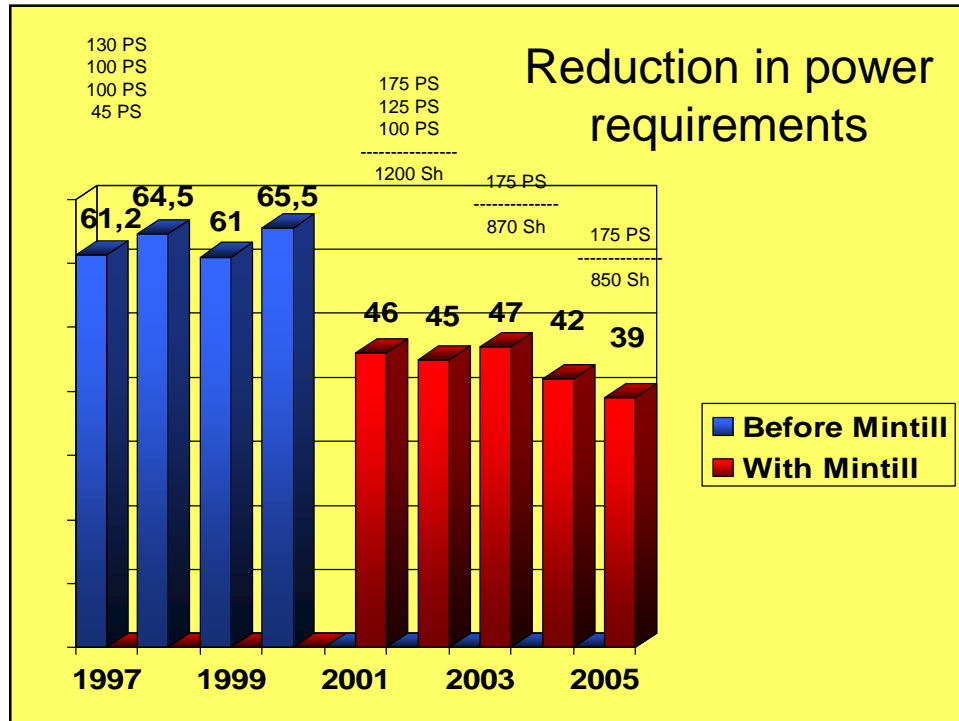
- Soil tillage

### •Tractors

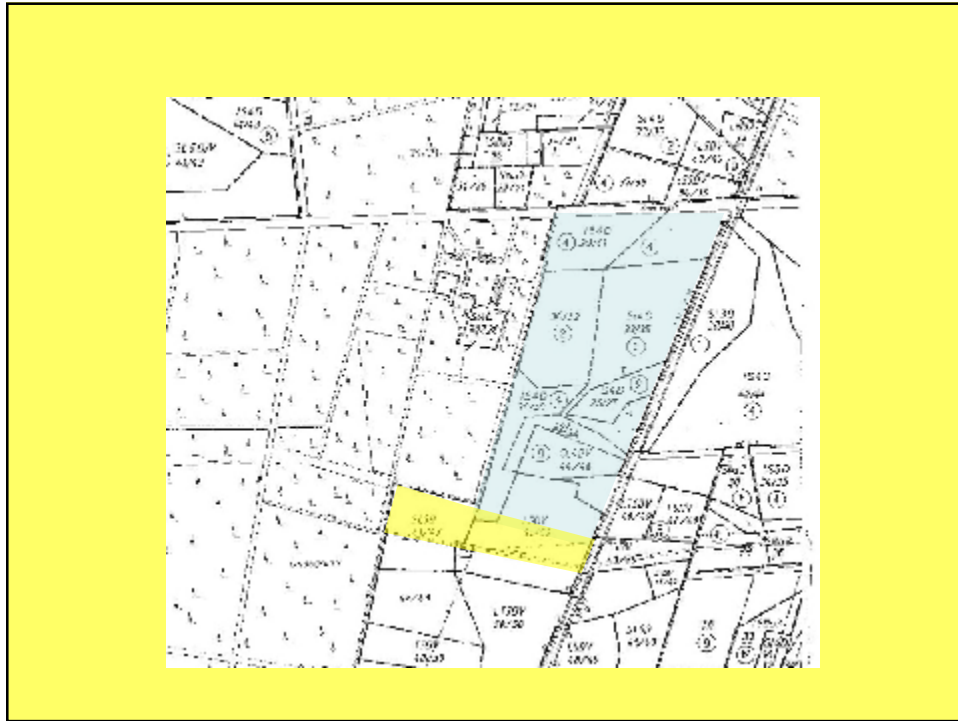
- Reduced number

- Fuel consumption optimized

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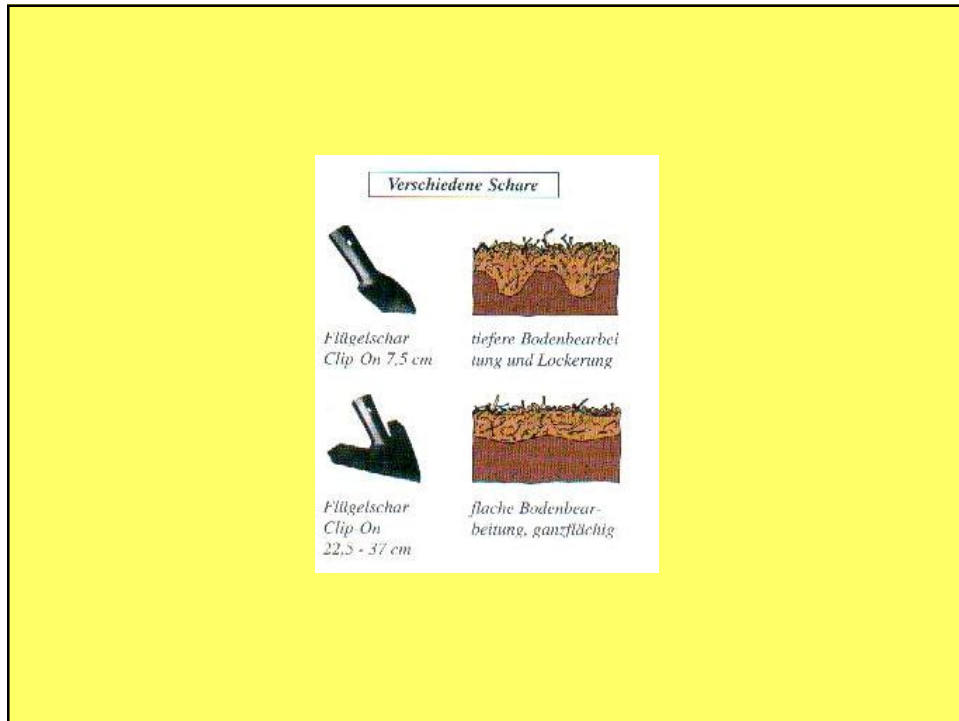


07:50	At Operation
08:00	Sprayer off
08:05	Drill on
08:20	Loading: ca. 1,7 t
08:40	Maintenance
08:50	Calibration in 10 min!
09:00	Driving to the field
10:30	3 ha ready
14:40	Another 11,5 ha ready
14:45	Shifting staff
	= 2,5 ha per hour

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## Harvest and CTF



- Chaser bin random traffic due to contracting business

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