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**Informationssystem Kleinräumige Bestandesführung Dürnast**  
*Information System Site Specific Crop Management*  
**"IKB - Dürnast"**

*Prof. Dr. Hermann Auernhammer*



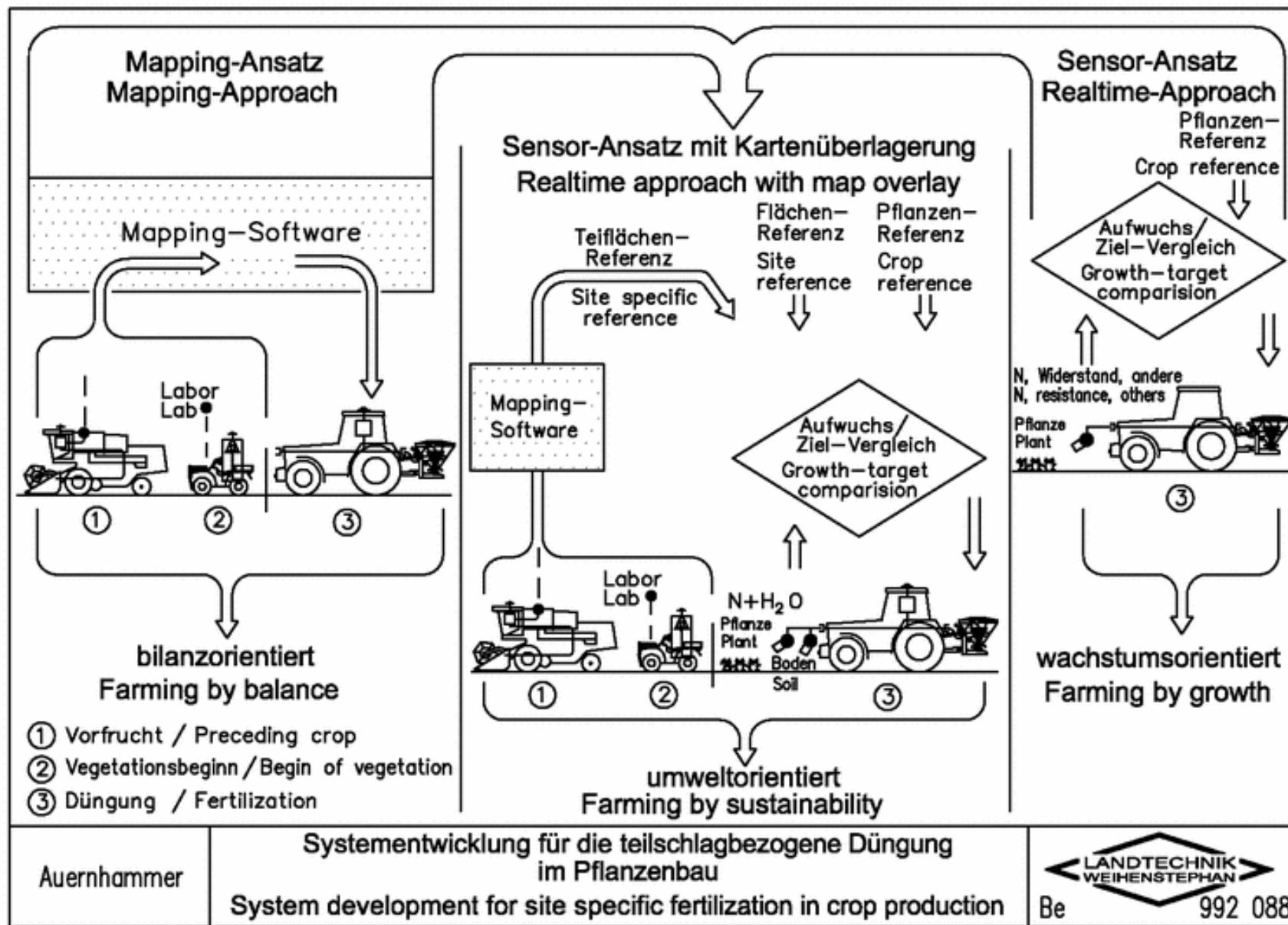
*Department of Bio Resources and Land Use Technology*  
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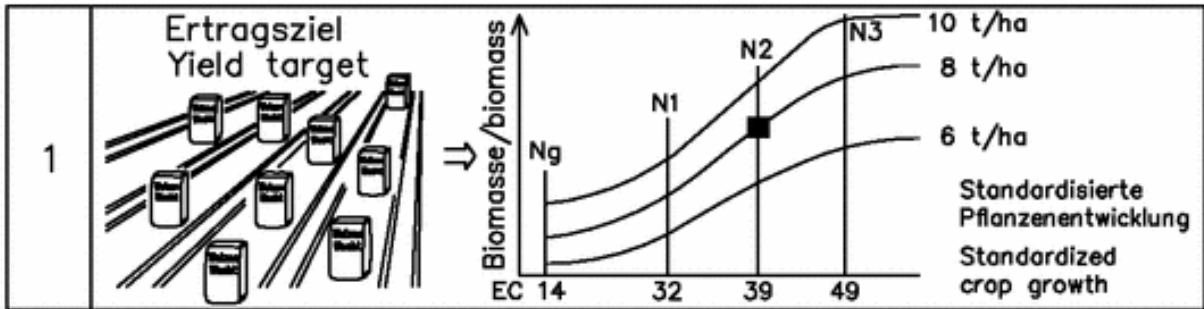
*The 2<sup>nd</sup> Sapporo International Symposium 2000*  
"Electronic Farm Communication with LBS"  
*Sapporo (Japan)*  
*Nov - 20 - 2000*

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# **Informationssystem Kleinräumige Bestandesführung Dürnast**

1. Problems of today's Agriculture in Germany
2. Site specific N-Fertilization
3. Special research group "IKB-Dürnast"
4. First results
5. Conclusions





2 Vegetationsstand  
Growth situation

verzögert delayed	langjähriges Mittel long lasting average	beschleunigt accelerated
+ 5	± 0	- 5

3 Ertragsmuster  
Yield pattern

unter $\phi$ below $\phi$	$\phi$	über $\phi$ above $\phi$
- 10	± 0	+ 10

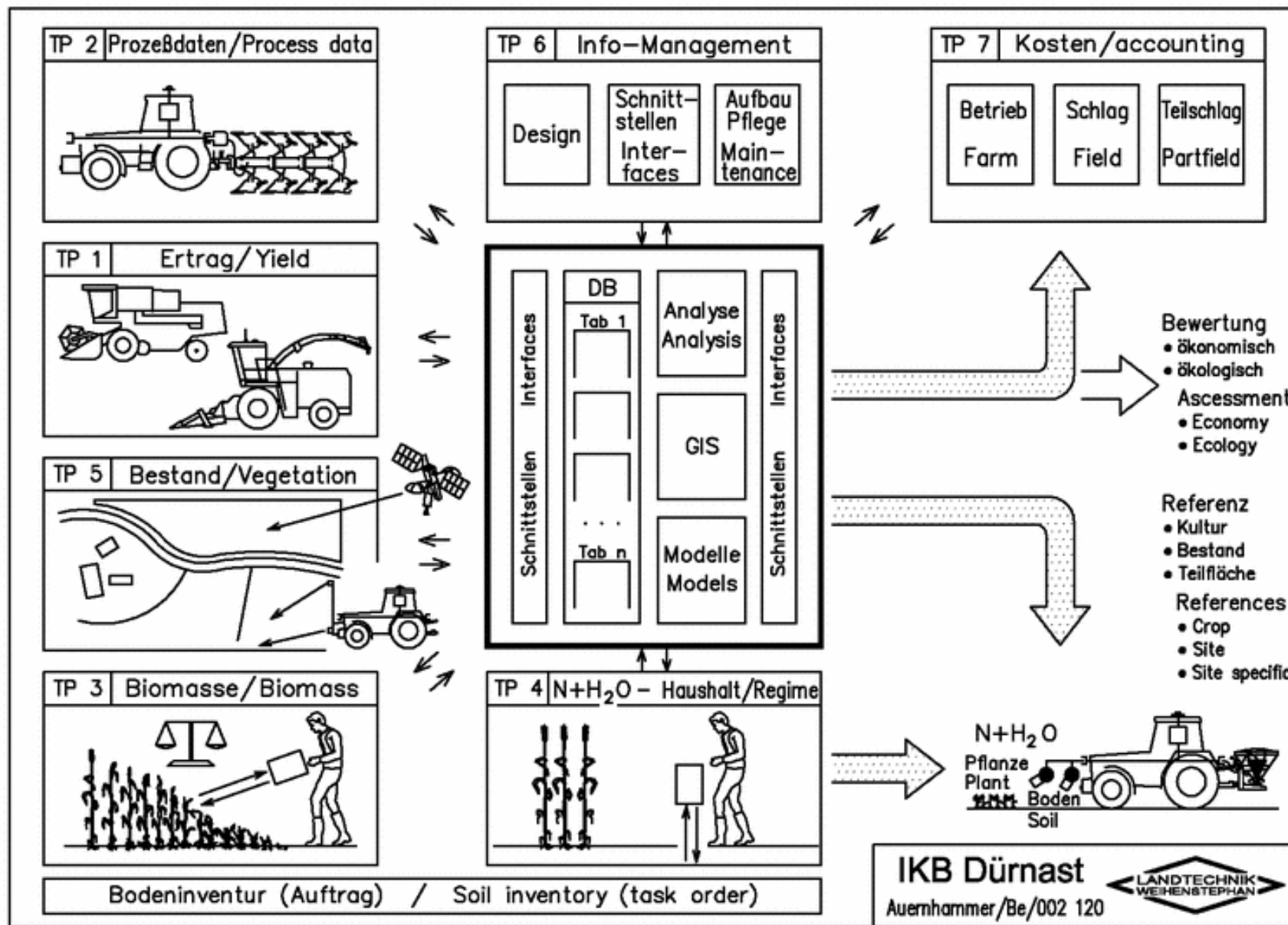
4 Wasserstreß/Bodenwasser  
Water stress/soil water

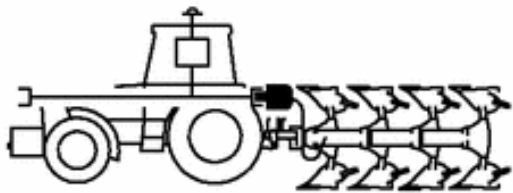
gute Versorgung good supply	ausreich. Versorgung sufficient supply	Wassermangel lack of water
+ 5	± 0	- 30

5 Wetterprognose  
Wether forecast

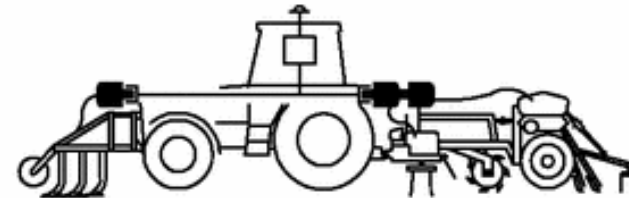
feucht kühl humid cool	langjähriges Mittel long lasting average	trocken warm dry hot
+ 5	± 0	- 10

Auernhammer	Entscheidungsschritte für die lokal benötigten N-Düngermengen Decision steps according the required N-fertilizing amounts	 Be 002 122
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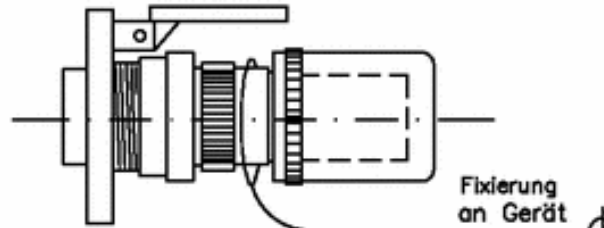
Grundbodenbearbeitung  
Primary soil preparation



Bestellkombination  
Minimum tillage

**Gerätekenner / Implement indicator (IMI)**

- Anmeldung (Gerätebezeichner)/Address request
- Icon
- Alive
- Grundparameter/Basic parameters



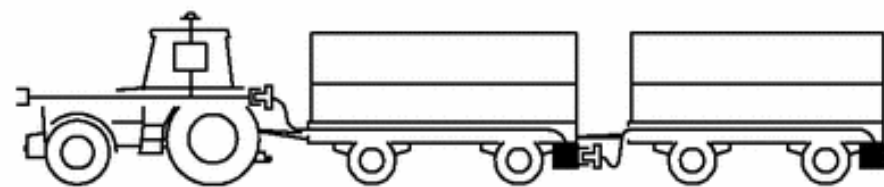
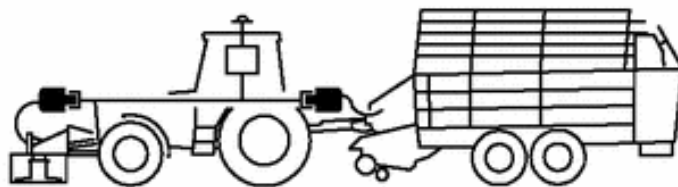
Fixierung  
an Gerät  
Attachment  
to implement

**Erfassung von / Acquisition of**

- Anbauzeit/Mounting time
- Betriebszeit/Operational time
- Leistung/Performance

Futterernte  
Forage harvesting

Transport  
Transportation



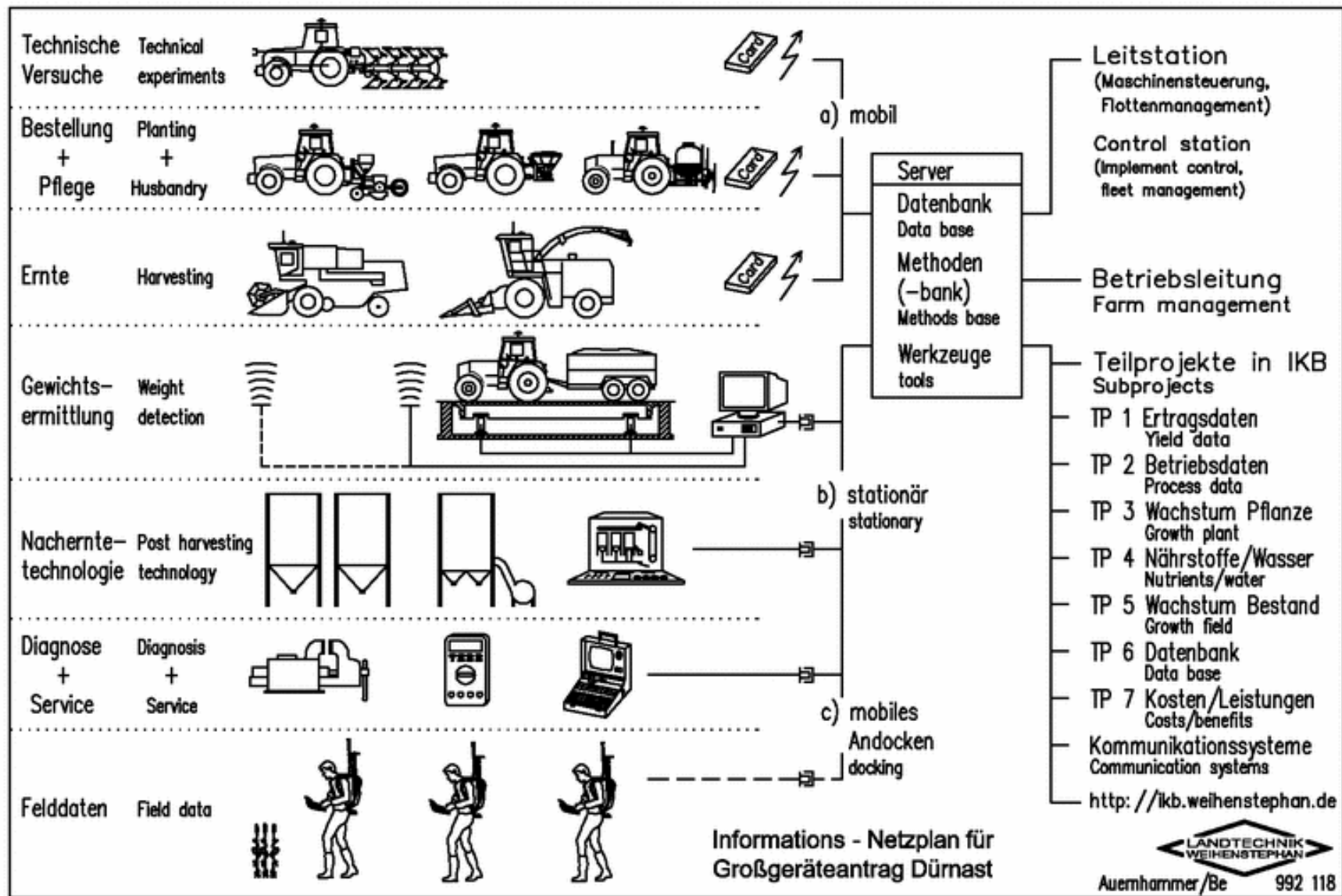
Auernhammer

Beispiele für die automatisierte Datenerfassung mit LBS  
Examples of automatized data acquisition with LBS  
schematisch / schematic



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## Conclusions

- Nitrogen over supply is the most important problem in the high yielding agriculture of Germany today
- The mapping approach is unable to guarantee appropriate predictions for N-dressings depending on regional weather conditions and site specific plant water stress situations
- Realtime Approaches with map overlay may contribute to this problems, first results obtained in the "IKB-Dürnast-project" show a higher N-efficiency which is equivalent to an improved N-consumption by the plants
- For on-farm use electronic communication will become a key position in data gathering and in on-the-go application systems
- LBS offers the opportunity to realize such a system in a reasonable time within a standardized system environment

**See also:** <http://ikb.weihenstephan.de>