

WELCOME

to the Julius Kühn-Institute
Federal Research Institute for Cultivated Plants



Dr. Frank Riepert



Institute for Pesticide Research in Berlin-Dahlem (1905)



Institute for Ecological Chemistry, Plant Analysis and Stored Product Protection

Julius Kühn-Institute



- ➔ The Federal Research Centre for Cultivated Plants (JKI), was newly constituted on January 1st, 2008
- ➔ The research branch of the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) has been reorganized and further concentrated from previously 7 to 4 research centres.
- ➔ The JKI is both an independent higher federal authority and a research institution.

Its tasks are laid down in legal acts such as the
Plant Protection Act,
Genetic Engineering Act,
Chemicals Act
and in corresponding legal regulations.

Who was Julius Kühn?

- Julius Kühn lived from 1825 till 1910.
- He established and developed the agrarian sciences as part of university education in Germany in the 19th century.
- He is one of the most prominent founders of modern phytomedicine.
- In 1863 he was given the permission to establish the first independent research institute in agricultural sciences in Germany at the University of Halle.
- Under his leadership during the next 40 years, this institution evolved into the most eminent educational and research institution of agrarian sciences in Germany at that time.
- He published about 300 articles mainly about plant protection.

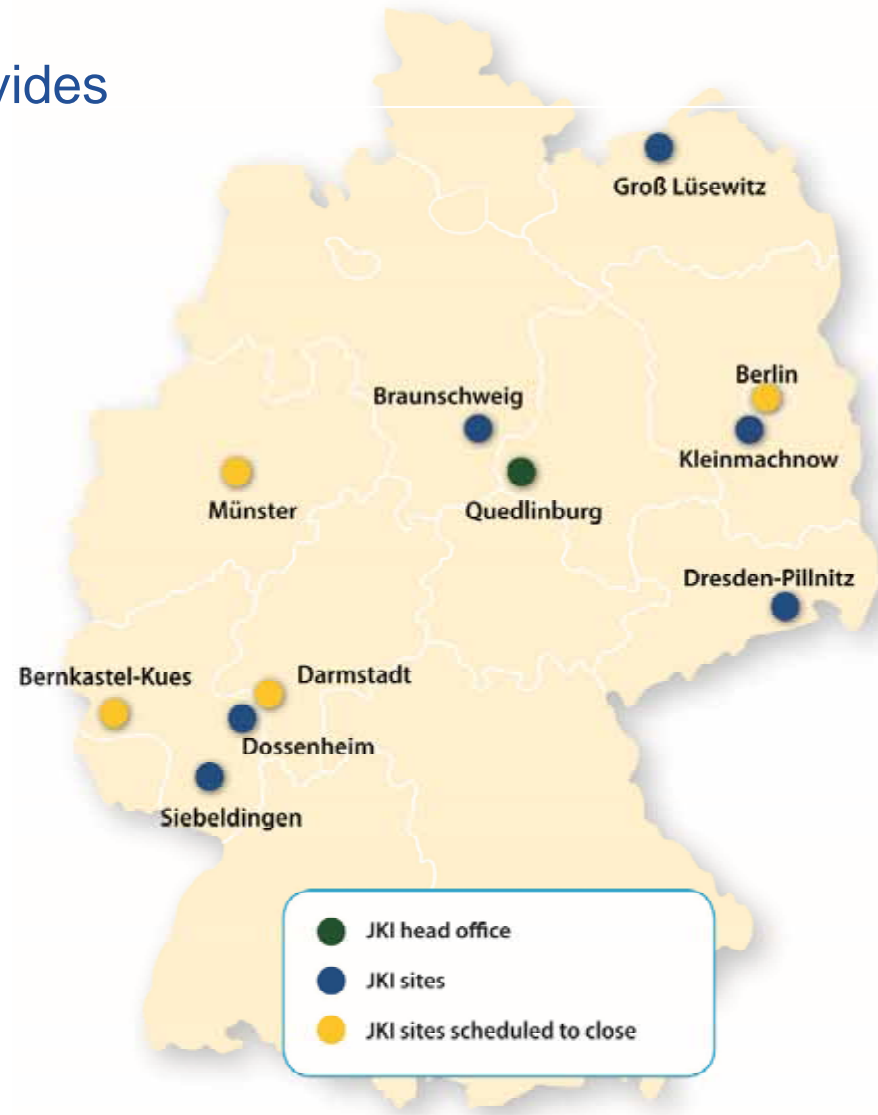


Organization



The new organizational structure provides research facilities in

- Quedlinburg
- Braunschweig
- Kleinmachnow
- Siebeldingen
- Dossenheim
- Dresden
- Groß Lüsewitz (experimental station)
- as well as facilities in Berlin, Darmstadt, Bernkastel-Kues and Münster, that are scheduled for closure during the next 10 years



Organization



➔ **Head office:** Quedlinburg (near the Harz mountains)

➔ 15 specialized institutes + several service units

➔ **Budget (1st January 2009):**

Federal budget: 70,5 Mio €

Third-party funds: 5,0 Mio €

Total: 75,5 Mio €

➔ **Staff (1st January 2009):**

Permanent posts: 814

Total staff (including third-party funds): 1.186

Scientists about 250



Julius Kühn-Institute Federal Research Centre for Cultivated Plants



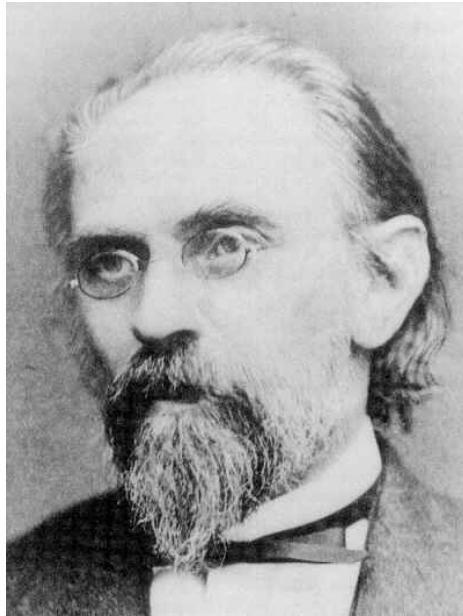
➔ The new name describes the new programme.

Major fields of research are:

- plant genetics, breeding research
- plant nutrition, agronomy and soil science
- plant protection and plant health



Institute for Pesticide Research in Berlin-Dahlem



Emil Erlenmeyer (1825-1909)



Josef Houben (1875-1940)



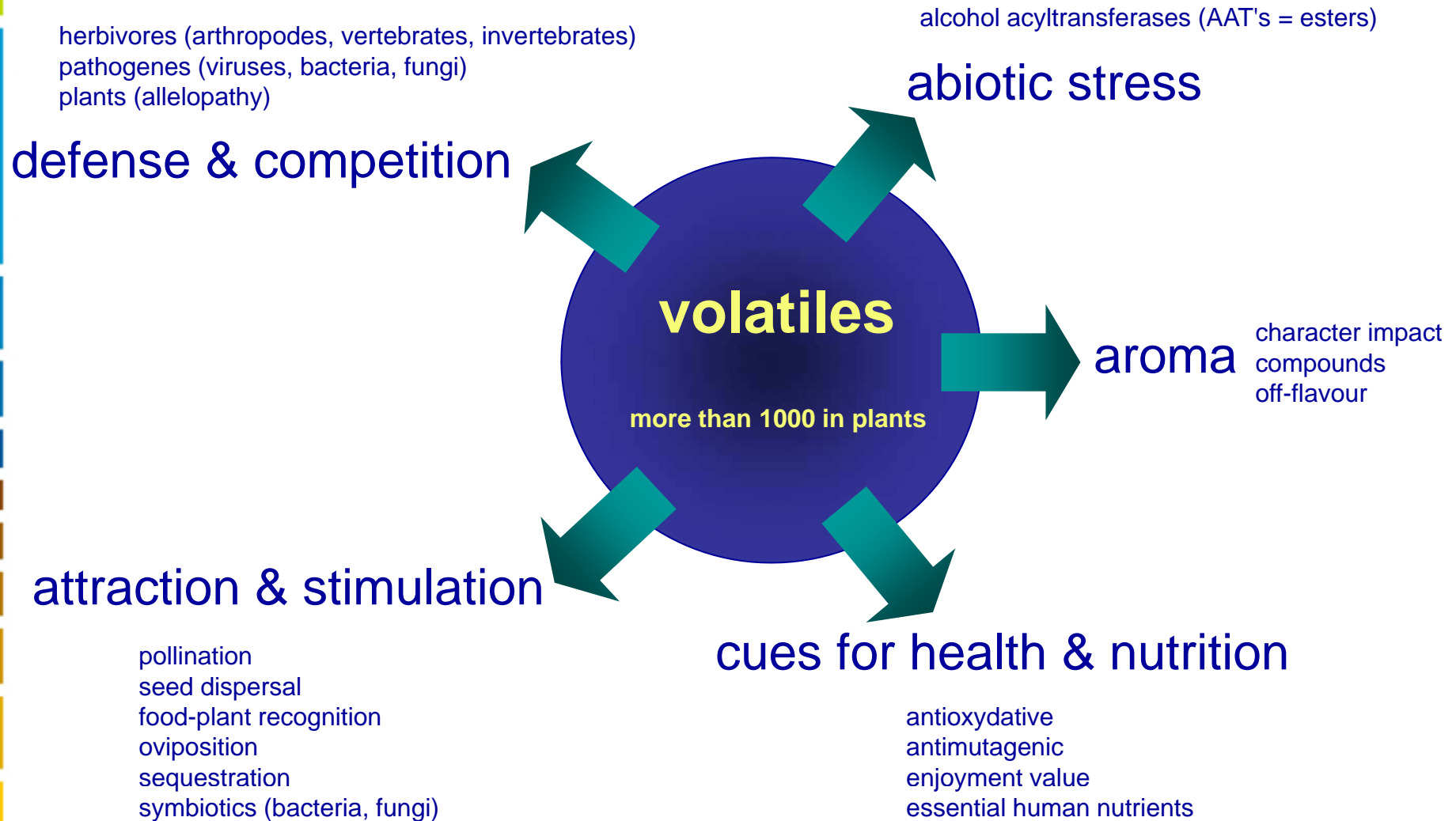
Identification of Damages on Bees...



...caused by registered plant protection products
(chemical analysis of numerous samples sent by beemasters)

Research in the area of „bee Toxication“
(e.g. transmission pathways, evaluation of toxicity...)

Tasks of Volatile Plant Substances



Analysis of Secondary Plant Substances



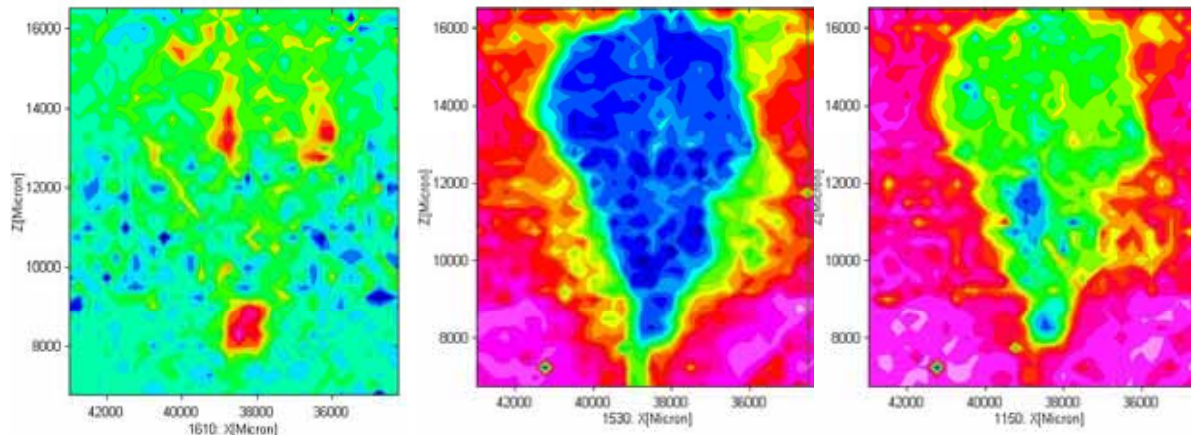
Development of new efficient methods for selection of improved genotypes (single plants) in breeding processes (health and aroma quality)



Characterization of substance-related biodiversity of wild and cultured species as well as land races

Evaluation of molecular data to get a deeper knowledge with regard to the biosynthesis of secondary plant substances

Analysis of Secondary Plant Substances



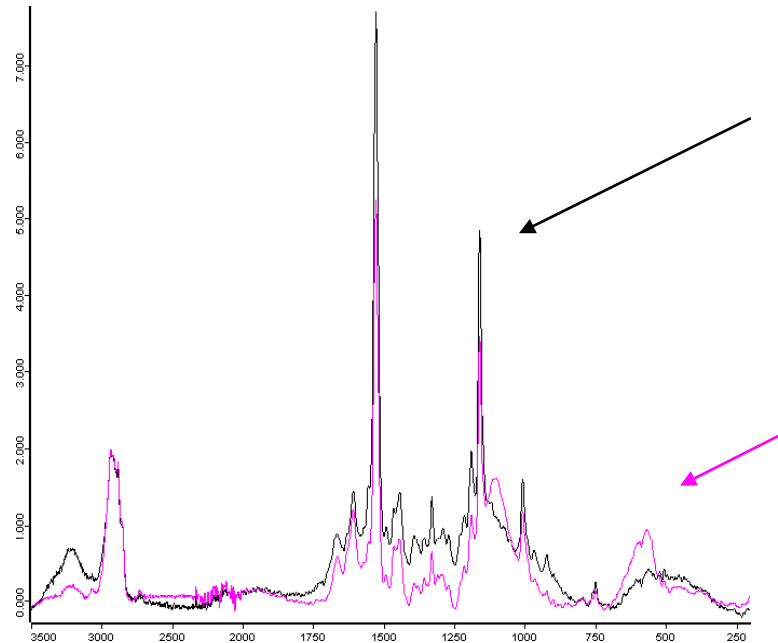
Range: 1610 cm-1

Range: 1530 cm-1

Range: 1150 cm-1

Application of
Micro-spectroscopic
Imaging techniques
(Mid-Infrared, Raman)

Distribution of phytoalexins
and valuable substances



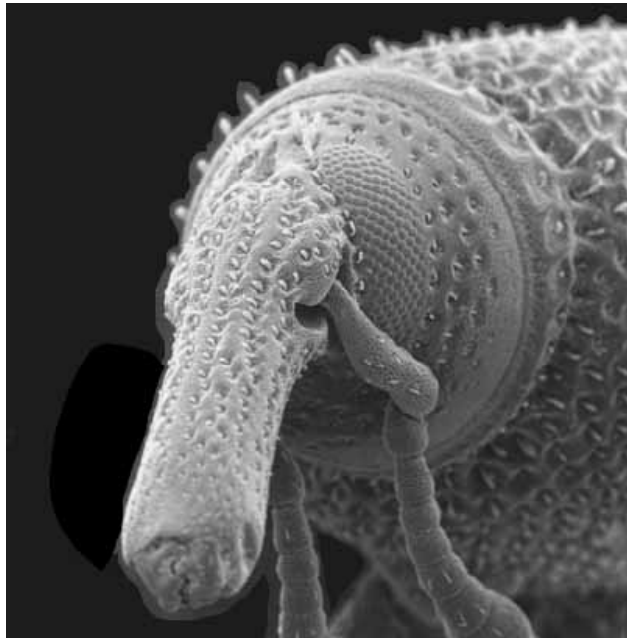
healthy leaf

affected leaf (fungus, bacteria, virus)

Tasks of the Julius Kühn-Institute



Protection of stored products: methods to detect, avoid and control insects and mites preferably by use of methods without adverse effects towards consumers or the environment (application of biological and physical methods)



Granary weevil (*Sitophilus granarius*)

Research facilities at Quedlinburg



- **Institute for Breeding Research on Agricultural Crops** with experimental station at Groß Lüsewitz
- **Institute for Breeding Research on Horticultural and Fruit Crops** (Branch Fruit Crops at Dresden-Pillnitz)
- **Institute for Resistance Research and Stress Tolerance** with experimental station at Groß Lüsewitz
- **Institute for Biosafety of Genetically Modified Plants**



Research facilities at Braunschweig



- **Institute for Crop and Soil Science**
- **Institute for Plant Protection in Field Crops and Grassland**
- **Institute for Plant Protection in Horticulture and Forests**
(Branch Vertebrate Research at Münster)
- **Institute for Application Techniques in Plant Protection**
- **Institute for National and International Plant Health**
- **Institute for Epidemiology and Pathogen Diagnostics**
(Branch Plant Nematology currently at Münster)
(at present also at Quedlinburg)

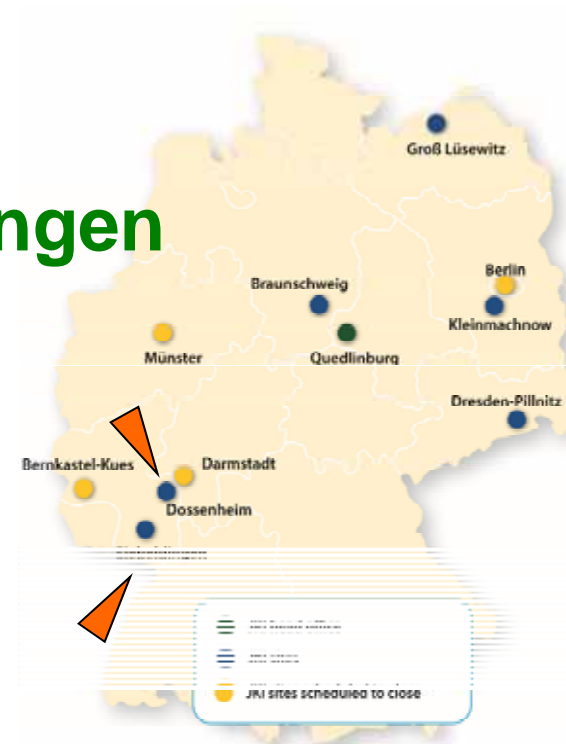


Research facilities at Dossenheim and Siebeldingen



Dossenheim:

- **Institute for Plant Protection in Fruit Crops and Viticulture**
 - Branch Fruit Crops
- **Institute for Biological Control**
(currently located at Darmstadt)



Siebeldingen :

- **Institute for Grapevine Breeding**
- **Institute for Plant Protection in Fruit Crops and Viticulture**
 - Branch Viticulture (currently located at Bernkastel-Kues)



**Thank you
for your attention!**

