

## Publications Susanne Brunner (January 2024)

### Peer-reviewed journals

- Camenzind M., Koller T., Armbruster C., Jung E., **Brunner S.**, Herren G., Keller B. (2024) Breeding for durable resistance against biotrophic fungal pathogens using transgenes from wheat. *Molecular Breeding* 44: 8. <https://doi.org/10.1007/s11032-024-01451-2>
- Koller T., Camenzind M., Jung E., **Brunner S.**, Herren G., Armbruster C., Keller B. (2023) Pyramiding of transgenic immune receptors from primary and tertiary wheat gene pools improves powdery mildew resistance in the field. *Journal of Experimental Botany*, erad493. <https://doi.org/10.1093/jxb/erad493>
- Yang Y., Kloos S., Mora-Ramírez I., Romeis J., **Brunner S.**, Li Y., Meissle M. (2019) Transgenic winter wheat expressing the sucrose transporter *HvSUT1* from barley does not affect aphid performance. *Insects* 10: 388. <https://doi.org/10.3390/insects10110388>
- Koller T., **Brunner S.**, Herren G., Sanchez-Martin J., Hurni S., Keller B. (2019) Field grown transgenic *Pm3e* wheat lines show powdery mildew resistance and no fitness costs associated with high transgene expression. *Transgenic Research* 28: 9-20. <https://doi.org/10.1007/s11248-018-0099-5>
- Singh S.P., Hurni S., Ruinelli M., **Brunner S.**, Sanchez-Martin J., Krukowski P., Peditto D., Buchmann G., Zbinden H., Keller B (2018) Evolutionary divergence of the rye *Pm17* and *Pm8* resistance genes reveals ancient diversity. *Plant Molecular Biology* 98: 249-260. <https://doi.org/10.1007/s11103-018-0780-3>
- Koller T., **Brunner S.**, Herren G., Hurni S., Keller B. (2018) Pyramiding of transgenic *Pm3* alleles in wheat results in improved powdery mildew resistance in the field. *Theoretical and Applied Genetics* 131: 861-871. <https://doi.org/10.1007/s00122-017-3043-9>
- Boni R., Chauhan H., Hensel G., Roulin A., Sucher J., Kumlehn J., **Brunner S.**, Krattinger S.G., Keller B. (2017) Pathogen-inducible *Ta-Lr34res* expression in heterologous barley confers disease resistance without negative pleiotropic effects. *Plant Biotechnology Journal* 16: 245-253. <https://doi.org/10.1111/pbi.12765>
- Diaz Quijano C., **Brunner S.**, Keller B., Gruissem W., Sautter C. (2015) The environment exerts a greater influence than the transgene on the transcriptome of field-grown wheat expressing the *Pm3b* allele. *Transgenic Research* 24: 87-97. <https://doi.org/10.1007/s11248-014-9821-0>
- Stirnweis D., Milani S.D., **Brunner S.**, Herren G., Buchmann G., Peditto D., Jordan T., Keller B. (2014) Suppression among alleles encoding nucleotide-binding-leucine-rich repeat resistance proteins interferes with resistance in F<sub>1</sub> hybrid and allele-pyramided wheat plants. *The Plant Journal* 79: 893-903.
- Stirnweis D., Milani S.D., Jordan T., Keller B., **Brunner S.** (2014) Substitutions of two amino acids in the nucleotide-binding site domain of a resistance protein enhance the hypersensitive response and enlarge the PM3F resistance spectrum in wheat. *Molecular Plant-Microbe Interactions* 27: 265-276.
- Sela H., Spiridon L.N., Ashkenazi H., Bhullar N.K., **Brunner S.**, Petrescu A.-J., Fahima T., Keller B., Jordan T. (2014) Three-dimensional modeling and diversity analysis reveals distinct AVR recognition sites and evolutionary pathways in wild and domesticated wheat *Pm3 R* genes. *Molecular Plant-Microbe Interactions* 27: 835-845.

- Hurni S., **Brunner S.**, Stirnweis D., Herren G., Peditto D., McIntosh R.A., Keller B. (2014) The powdery mildew resistance gene *Pm8* derived from rye is suppressed by its wheat ortholog *Pm3*. *The Plant Journal* 79: 904–913.
- Hurni S., **Brunner S.**, Buchmann G., Herren G., Jordan T., Krukowski P., Wicker T., Yahiaoui N., Mago R., Keller B. (2013) Rye *Pm8* and wheat *Pm3* are orthologous genes and show evolutionary conservation of resistance function against powdery mildew. *The Plant Journal* 76: 957–969.
- Romeis J., Meissle M., **Brunner S.**, Tschamper D., Winzeler M. (2013) Plant biotechnology: research behind fences. *Trends in Biotechnology* 31: 222–224.
- Brunner S.**, Stirnweis D., Diaz Quijano C., Buesing G., Herren G., Parlange F., Barret P., Tassy C., Sautter C., Winzeler M., Keller B. (2012) Transgenic *Pm3* multilines of wheat show increased powdery mildew resistance in the field. *Plant Biotechnology Journal* 10: 398–409.
- Brunner S.**, Hurni S., Herren G., Kalinina O., Von Burg S., Zeller S.L., Schmid B., Winzeler M., Keller B. (2011) Transgenic *Pm3b* wheat lines show resistance to powdery mildew in the field. *Plant Biotechnology Journal* 9: 897–910.
- Brunner S.**, Hurni S., Streckeisen Ph., Mayr G., Albrecht M., Yahiaoui N., Keller B. (2010) Intragenic allele pyramiding combines different specificities of wheat *Pm3* resistance alleles. *The Plant Journal* 64: 433–445.
- Zeller S.L., Kalinina O., **Brunner S.**, Keller B., Schmid B. (2010) Transgene × environment interactions in genetically modified wheat. *PLoS ONE* 5: e11405.
- Yahiaoui N., **Brunner S.**, Keller B. (2006) Rapid generation of new powdery mildew resistance genes after wheat domestication. *The Plant Journal* 47: 85–98.
- Srichumpa P., **Brunner S.**, Keller B., Yahiaoui N. (2005) Allelic series of four powdery mildew resistance genes at the *Pm3* locus in hexaploid bread wheat. *Plant Physiology* 139: 885–895.
- Diet A., **Brunner S.**, Ringli C. (2004) The *enl* mutants enhance the *lrx1* root hair mutant phenotype of *Arabidopsis thaliana*. *Plant Cell Physiology* 45: 734–741.

### Book chapters

- Keller B., Krattinger S., Selter L., Chauhan H., Singla J., **Brunner S.**, Hurni S., Stirnweis D., Shatalina M., Wicker T., Parlange F., Risk J., Lagudah E. (2016) Genomic approaches towards durable fungal disease resistance in wheat. In: *Advances in Wheat Genetics: From Genome to Field*, (Ogihara Y., Takumi S., Handa H., eds.) Springer Japan, pp. 369–375.

### Other publications

- Brunner S.**, Romeis J., Patocchi A., Peter R. (2021) Protected Site: seven years of field research with genetically modified plants. *Swiss Agricultural Research* 12: 9–15.

- Brunner S.**, Vetterli C., Krebs H., Hebeisen T., Romeis J., Winzeler M. (2017) Gentechnisch veränderte Kartoffelpflanzen sind resistent gegen die Krautfäule. *Agrarforschung Schweiz* 8: 208–215.
- Hebeisen T., **Brunner S.**, Vetterli C., Krebs H., Romeis J. (2014) Neue Ansätze zur Verbesserung der Resistenz gegen Kraut- und Knollenfäule bei Kartoffeln. In: Gentechnikfreie Schweiz – (k)ein Szenario für die Zukunft (Dahinden M., Romeis J., Selter L., Folkers G., eds.), Druckzentrum ETH Zürich, pp. 45–51.
- Keller B., **Brunner S.** (2006) Gentechnologie in der Landwirtschaft – Wissenschaft im Spannungsfeld der Interessen. In: Ethische Verantwortung in den Wissenschaften. Ethikkommission der Universität Zürich, ed., Reihe Zürcher Hochschulforum, Bd. 38. vdf Hochschulverlag AG, Zürich. ISBN-13: 978-3-7281-2980-2, pp. 109-119.