

## Publications

### Monograph:

Damgaard, C. Evolutionary ecology of plant-plant interactions – An empirical modelling approach. (draft version)

### Peer-reviewed journals:

Becker, H. C., Damgaard, C. and Karlsson, B. 1992. Environmental variation for outcrossing in rapeseed (*Brassica napus*). *Theoretical and Applied Genetics* 84: 303-306.

Damgaard, C., Couvet, D. and Loeschcke, V. 1992. Partial selfing as an optimal mating strategy. *Heredity* 69: 289-295.

Damgaard, C., Guldbrandtsen, B. and Christiansen, F. B. 1994. Male gametophytic selection against a deleterious allele in a mixed mating model. *Hereditas* 120: 13-18.

Damgaard, C. and Loeschcke, V. 1994. Genotypic variation for reproductive characters, and the influence of pollen-ovule ratio on selfing rate in rape seed (*Brassica napus*). *Journal of Evolutionary Biology* 7: 599-607.

Damgaard, C. and Loeschcke, V. 1994. Inbreeding depression and dominance-suppression competition after inbreeding depression in rape seed (*Brassica napus*). *Theoretical and Applied Genetics* 88: 321-323.

Damgaard, C. and Loeschcke, V. 1994. Genetic variation for selfing rate, and the dependence of selfing rate on mating history in rape seed (*Brassica napus*). *Heredity* 72: 570-573.

Damgaard, C. and Abbott, R. 1995. Positive correlations between selfing rate and pollen-ovule ratio within plant populations. *Evolution* 49: 214-217.

Damgaard, C. 1996. The rate of evolution in growing populations. *Trends in Ecology and Evolution* 11: 214-217.

Damgaard, C. 1996. Fixation probabilities of selfing rate modifiers in simulations with several deleterious alleles with linkage. *Evolution* 50: 1425-1431.

Damgaard, C. and Giese, H. 1996. Genetic variation in Danish populations of *Erysiphe graminis* f. sp. *hordei*: estimation of gene diversity and effective population size using RFLP data. *Plant Pathology* 45: 691-696.

Damgaard, C. and Østergård, H. 1997. Density dependent growth and life history evolution of polycyclic leaf pathogens: A continuous time growth model. *Journal of Phytopathology* 145: 17-23.

Damgaard, C. 1998. Plant competition experiments: Testing hypotheses and estimating the probability of coexistence. *Ecology* 79: 1760-1767.

- Damgaard, C. 1999. Coevolution of a plant host-pathogen gene-for-gene system in a metapopulation model without cost of resistance or cost of virulence. *Journal of Theoretical Biology* 201: 1-12.
- Damgaard, C. 1999. A test of asymmetric competition in plant monocultures using the maximum likelihood function of a simple growth model. *Ecological Modelling* 116: 285-292.
- Damgaard, C. and Nielsen, B. 1999. The effect of fungal density on fungicide dose-response curves. *Plant Pathology* 48: 402-407.
- Jagers op Akkerhuis, G. A. J. M. and Damgaard, C. 1999. Using resource dominance to explain and predict evolutionary success. *Oikos* 87: 609-614.
- Jagers op Akkerhuis, G. A. J. M., Kjær, C., Damgaard, C. and Elmegaard, N. 1999. Temperature-dependent, time-dose-effect model for pesticide effects on growing, herbivorous Arthropods: Bioassays with Dimethoate and Cypermethrin. *Environmental Toxicology and Chemistry* 18: 2370-2378.
- Jagers op Akkerhuis, G. A. J. M., Damgaard, C., Kjær, C. and Elmegaard, N. 1999. Comparison of the toxicity of Dimethoate and Cypermethrin in the laboratory and the field when applying the same bioassay. *Environmental Toxicology and Chemistry* 18: 2379-2385.
- Damgaard, C. 2000. Fixation of advantageous alleles in partially self-fertilizing populations: The effect of different selection modes. *Genetics* 154: 813-821.
- Damgaard, C. and Weiner, C. 2000. Describing inequality in plant size or fecundity. *Ecology* 81: 1139-1142.
- Højer, R., Bayley, M., Damgaard, C., and Holmstrup, M. 2001. Stress synergy between drought and a common environmental contaminant: studies with the collembolan *Folsomia candida*. *Global Change Biology* 7: 485-494.
- Damgaard, C., and Løkke, H. 2001. A critique of the "concept of familiarity" as used in the ecological risk assessment of genetically modified plants. *BioSafety* 6: Paper 1 (BY01001) Online Journal - URL: <http://www.bioline.org.br/by>
- Damgaard, C., Højer, R., Bayley, M., Scott-Fordsmand, J. J., and Holmstrup, M. 2002. Dose response curve modelling of excess mortality caused by two forms of stress. *Environmental and Ecological Statistics* 9: 195-200.
- Damgaard, C. 2002. Quantifying the invasion probability of genetically modified plants. *BioSafety* 7: Paper 1 (BY02001) Online Journal - URL: <http://www.bioline.org.br/by>
- Damgaard, C., Weiner, J. and Nagashima, H. 2002. Modelling individual growth and competition in plant populations: growth curves of *Chenopodium album* at two densities. *Journal of Ecology* 90: 666-671.

Damgaard, C. and Jensen, B. D. 2002. Disease resistance in *Arabidopsis* increases the probability of long-term ecological success. *Oikos* 98: 459-466.

Pertl, M., Hauser, T. P., Damgaard, C. and Jørgensen, R. B. In press. Male fitness of *Brassica napus*, *B. rapa* and their F<sub>1</sub> hybrids in mixed populations. *Heredity*

Hauser, T. P., Damgaard, C. and Jørgensen, R. B. In press. Frequency-dependent fitness of hybrids between oilseed rape (*Brassica napus*) and weedy *B. rapa* (*Brassicaceae*). *American Journal of Botany*

Damgaard, C. submitted. Evolution of advantageous alleles affecting population ecological characteristics in partially inbreeding populations.

Damgaard, C. submitted. Inference from plant competition experiments: the effect of spatial covariance.

Damgaard, C. submitted. Modelling plant competition along an environmental gradient.

Friis, K., Damgaard, C. and Holmstrup, M. submitted. Sublethal soil copper concentrations increase mortality in the earthworm *Aporrectodea caliginosa* during drought.

#### **Book Chapters, Proceedings, Reports, Newsletters, etc.:**

Becker, H. C., Karlsson, B., and Damgaard, C. 1991. Genotypic and environmental variation for outcrossing rate in rapeseed. In: McGregor, D. I. (ed.). Proceedings of GCIRC 8th International Rapeseed Congress 1991. pp. 1454-1459. Saskatoon, Canada.

Damgaard, C. 1994. Selfing rate: Cause and effect. Ph. D. Thesis, Department of Ecology and Genetics, University of Aarhus.

Hauser, T. P., Damgaard, C., and Loeschke, V. 1994. Effects of inbreeding in small plant populations: Expectations, and implications for conservation. In: Loeschke, V., Tomiuk, J., and Jain, S. K. (eds.). *Conservation Biology*. pp. 115-129. Birkhäuser, Basel.

Damgaard, C., and Østergård, H. 1996. Density dependent growth of powdery mildew (*Erysiphe graminis* f. sp. *hordei*) on a partial resistant barley variety: Infection efficiency and spore production. In: Limpert, E., Finckh, M.R., and Wolfe, M. S. (eds.). *Integrated control of cereal mildews and rusts: Towards co-ordination of research across Europe*. pp. 241-245. COST 817, European Commission.

Damgaard, C., and Østergård, H. 1996. Genetic variation in the gene-for-gene system. *Cereal Rusts and Powdery Mildews Bulletin* 24(Supplement): 284-286.

Jagers op Akkerhuis, G. A. J. M., Kjær, C., Damgaard, C., and Elmegaard, N. 1998. A temperature dependent, time-dose-effect model for pesticide effects on growing, herbivorous arthropods; Bioassays with dimethoate and cypermethrin. *Population toxicology: Extrapolations from laboratory to field*. Pesticides Research no. 40, Danish Environmental Protection Agency.

Jagers op Akkerhuis, G. A. J. M., Damgaard, C., Kjær, C., and Elmegaard, N. 1998. Field validation of a laboratory based model for pesticide effects. Population toxicology: Extrapolations from laboratory to field. Pesticides Research no. 40, Danish Environmental Protection Agency.

Damgaard, C. 1998. Recombination and sex, is it the same? Mycoinfo - <http://www.mycoinfo.com/>

Damgaard C. 1998. Modelling the spread of disease resistance gene in natural populations. In: Ammann, K., Jacot, Y., Simonsen, V., and Kjellsson, G. (eds.). Methods for risk assessment of transgenic plants. III. Ecological risks and prospects of trasgenic plants, where do we go from here? A dialogue between biotech industry and science. pp. 43-45. Birkhäuser, Basel.

Kjær, C., Damgaard, C., Kjellsson, G., Strandberg, B, and Strandberg, M. 1999. Ecological risk assessment of genetically modified higher plants (GMHP) – Identification of data needs. NERI Technical Report, No. 303, National Environmental Research Institute, Denmark.

Damgaard, C. 2000. WWW-pages on the Lorenz curve and its summary statistics on *MathWorld*<sup>TM</sup>. <http://mathworld.wolfram.com/LorenzCurve.html>,  
<http://mathworld.wolfram.com/GiniCoefficient.html>,  
<http://mathworld.wolfram.com/LorenzAsymmetryCoefficient.html>.

Kjær, C., Elmegaard, N., Pedersen, M. B., Damgaard, C., and Nielsen, J. K. 2001. Phytochemical responses to herbicide exposure and effects on herbivorous insects. Pesticides Research no. 55, Danish Environmental Protection Agency.

### **Danish publications:**

Damgaard, C. 1990. Evolutionen af parringssystemer hos hermafroditiske planter – med eksempel i raps. Specialerapport, Institut for Genetik og Økologi, Aarhus Universitet.

Damgaard, C. 1996. Sandsynligheden for at en genmodificeret plante vil invadere et naturligt økosystem. *Det Må Ud* 47:1-3.

Damgaard, C., Kjellsson, G., Kjær, C., and Strandberg, B. 1998. Gensplejsede planter. Temarapport fra DMU 23. <http://www.dmu.dk/news/temarap/23/index.htm>

Nielsen, B. J., O'Hara, R. B., Munk, L. Damgaard, C., and Østergård, H. 2000. Resistente meldugsvampe på byg og hvede. *Naturens Verden* Særnummer; Pesticider – Konsekvenser for miljøet: 32-36.

Damgard, C. 2000. Gensplejsede planter. In: Løkke, H. 2000. Risiko og usikkerhed – miljø og fødevarer. Temarapport fra DMU 32:24-25.

Kjellsson, G., Strandberg, M., and Damgaard, C. 2001. Økologisk risikovurdering af genetisk modificerede planter. DJF rapport 41: 157-169.

Kjellsson, G., Damgaard, C., Frohn, L. M., Brandt, J., Løfstrøm, P., and Strandberg, B. 2002. Muligheder for begrænsning af ukontrollabel GMP-spredning. In: Kjellsson, G., and Boelt (eds.). Konsekvenser af genmodificerede afgrøder for økologisk jordbrug. Føjo-rapport nr. 16: 85-99. Forskningscenter for Økologisk Jordbrug.

**Software:**

Damgaard, C. 1997. PLANTCP 1.0. A program in "Mathematica 3.0" for testing various hypotheses on the parameters in two plant species competition experiments, as well as estimating the probability of coexistence using Bayesian statistics. The program can be downloaded from "<http://www.dmu.dk>"

Damgaard, C. 1997. FUNGTEST 1.0. A program in "Mathematica 3.0" for estimating the mean and the variance of a fungal population for fungicide tolerance from a dose-response curve. The program can be downloaded from "<http://www.dmu.dk>"

Damgaard, C. 1998. LORENZ 1.0. A program in "Mathematica 3.0" for drawing sample Lorenz curves and to calculate Gini Coefficients and Lorenz Asymmetry Coefficients. The program can be downloaded from "<http://www.dmu.dk>"