
DRAFT BIBLIOGRAPHY

for the
USDA/APHIS

Workshop on Confinement of Genetically Engineered Crops during Field Testing

[Note: This bibliography is a work in progress. Additions, corrections, and comments are requested. Please contact: laura.bartley@aphis.usda.gov and robyn.i.rose@aphis.usda.gov.]

Table of Contents

I.	General References (applicable to multiple crops, contains many general reviews)	page 2
II.	Predominantly Wind-Pollinated Crops (maize, beets, trees)	page 6
III.	Predominantly Self-pollinated Crops (rice, barley, wheat)	page 10
IV.	Partially or Predominantly Insect-pollinated Crops (safflower, cotton, tobacco, <i>Brassic</i> as, sunflower and <i>Senecio</i> , <i>Cucumis</i> , tomato, potato)	page 13

Notes:

We have attempted to divide the references for each crop type into the following categories related to the break out session questions:

- General
- Pollen Biology and Pollination Variability
- Pollen Dispersal, Hybridization, and Spatial Confinement
- Seed Biology and Dispersal
- Physical Confinement of Pollen, Seed, and Volunteers
- Bioconfinement
- Modeling
- Detection and Monitoring

Some categories are adjusted as appropriate for the crop type. In some cases individual references are listed in multiple sections, though we tried to avoid unnecessary duplications. For some topics that are general or cross-cutting, references that have been listed under one crop type may be applicable to other crops. (For example, many experimental bioconfinement systems have been developed in the model system tobacco and hence can be found in the insect-pollinated crops section.)

GENERAL REFERENCES (applicable to multiple crops)

General

- AOSCA, (Association of Official Seed Certifying Agencies) 2003. *Operational Procedures, Crop Standards and Service Programs Publication*. AOSCA: Meridian, Idaho. p. 308. <ftp://www.aosca.org/opandcs.pdf> (general)
- Brookes, G. 2002. Identity preservation of genetically modified organisms in the food chain: requirements, methods and costs. *Journal of AOAC International*. **85**: p. 762-767. (general)
- Champolivier, J., *et al.* 1999. Management of transgenic crops within the cropping system, in *Gene Flow and Agriculture: Relevance for Transgenic Crops*, Lutman, P., Editor. p. 233-240. (general)
- DEFRA, (U.K. Department for Environment Food and Rural Affairs) 2001. *Guidance on principles of best practice in the design of genetically modified plants*. (general)
http://www.defra.gov.uk/environment/acre/bestprac/guidance/pdf/bestprac_plants_guidance.pdf
- Kelly, A. F. and George, R. A. T., eds. 1998. *Encyclopaedia of seed production of world crops.*, John Wiley & Sons: Chichester, UK. ix + 403 pp. (general)
- Kernick, M.D. 1961. *Seed production of specific crops*. Rome, Italy: Food and Agriculture Organization of the United Nations. 181-461. (general/seed)
- McDonald, M.B. and Copeland, L.O. 1997. *Seed production: principles and practices.*: Chapman & Hall. pp. 148-170 and 193-205. (seed/general)
- Mellon, M. and Rissler, J. 2004. *Gone to seed: Transgenic contaminants in the traditional seed supply*. Union of Concerned Scientists. p. 70. (general/seed/maize)
- Nap, J.-P., *et al.* 2003. The release of genetically modified crops into the environment. Part I. Overview of current status and regulations. *Plant Journal*. **33**: p. 1-18. (general)
- NPDC (National Plant Data Center), 1999. *The PLANT database*. USDA, NRCS: Baton Rouge, LA 70874-4490, USA. <http://plants.USDA.gov/plants> (general/wild relatives)

Pollen and Pollination Biology

- Di-Giovanni, F., Kevan, P.G., and Nasr, M.E. 1995. The variability in settling velocities of some pollen and spores. *Grana*. **34**: p. 39-44. (modeling/pollen/general)
- Pacini, E., *et al.* 1997. Pollen viability related to type of pollination in six angiosperm species. *Annals of Botany*. **80**(1): p. 83-87. (pollen/general)
- Stone, J.L., Thomson, J.D., and Dent-Acosta, S.J. 1995. Assessment of pollen viability in hand-pollination experiments: A review. *American Journal of Botany*. **82**(9): p. 1186-1197. (pollen/general/physical confinement)

Pollen Dispersal, Hybridization (Inter-crop and with Relatives), and Spatial Confinement

- Adams, W. T. , Griffin, A. R. , and Moran, G. F. 1992. Using paternity analysis to measure effective pollen dispersal in plant populations. *American Naturalist*. **140**(5): p. 762-780. (modeling/general/pollen)
- Bartley, L. E. and Turner, J. T. in press. Assessment of measures to limit gene flow from genetically engineered crops, in *Proceedings of a Conference on Biotechnology in Centers of Origin*. (general/bioconfinement/spatial confinement/review)
- Bateman, A. J. 1947. Contamination in Seed Crops. III. Relation with isolation distance. *Heredity*. **1**: p. 303-306. (general/hybridization/spatial confinement)
- Dale, P. J. 1994. The impact of hybrids between genetically modified crop plants and their related species: general considerations. *Molecular Ecology*. **3**(1): p. 31-36. (consequences/hybridization/general)
- Eastham, K. and Sweet, J. 2002. *Genetically modified organisms (GMOs): The significance of gene flow through pollen transfer*, in *Environ. Issue Rpt. No. 28*. European Environmental Agency, Copenhagen, Denmark. (general/hybridization)
- Ellstrand, N. C. 1988. Pollen as a vehicle for the escape of engineered genes? in *Planned release of genetically engineered organisms*. Cambridge, UK: Elsevier Publications. (general/hybridization/spatial confinement)
- Ellstrand, N. C. and Hoffman, C. A. 1990. Hybridization as an avenue of escape for engineered genes. *BioScience*. **40**(6): p. 438-442. (general/weed/hybridization)
- Ellstrand, N. C., Prentice, H. C., and Hancock, J. F. 1999. Gene flow and introgression from domesticated plants into their wild relatives. *Annual Review of Ecology and Systematics*. **30**: p. 539-563. (general/hybridization/wild relatives/review)
- Ellstrand, N.C. 2003. *Dangerous Liasons? When cultivated plants mate with their wild relatives.*, Baltimore, MD: Johns Hopkins University Press. (general/hybridization/consequences/wild relatives/weed)
- Ellstrand, N.C., *et al.* 2003. Current knowledge of gene flow in plants: Implications for transgene flow. *Philosophical Transactions of the Royal Society of London Series B Biological Sciences*. **358**(1434): p. 1163-1170. (general/hybridization/consequences/wild relatives/weed)
- Hancock, J.F., Grumet, R., and Hokanson, S.C. 1996. The opportunity for escape of engineered genes from transgenic crops. *HortScience*. **31**(7): p. 1080-1085. (general/hybridization)
- Jenczewski, E. , Ronfort, J. , and Chèvre, A. M. 2003. Crop-to-wild gene flow, introgression and possible fitness

- effects of transgenes. *Environmental Biosafety Research*. **2** (1): p. 9-24. (hybridization/general/weed/wild relatives/consequences)
- Kjellsson, G. , Simonsen, V., and Ammann, K. 1997. *Methods for risk assessment of transgenic plants. II Pollination, gene-transfer and population impacts.*, Verlag, Basel . Birkhauser. 308 pp. (hybridization/general/consequences)
- Lu, B.-R. 2003. Transgene containment by molecular means - is it possible and cost effective? *Environmental Biosafety Research*. **2**(1): p. 3-8. (general/hybridization/consequences)
- Messequer, J. 2003. Gene flow assessment in transgenic plants. *Plant Cell, Tissue and Organ Culture*. **73**(3): p. 201-212. (general/spatial confinement/hybridization/review)
- Slatkin, M. 1987. Gene flow and the geographical structure of natural populations. *Science, USA*. **236**(4803): p. 787-792. (review/hybridization/general)
- Sork, V. L. , *et al.* 1999. Landscape approaches to historical and contemporary gene flow in plants. *Trends in Ecology & Evolution*. **14**(6): p. 219-224. (modeling/hybridization/general/scale)
- Squire, G.R., *et al.* 1999. Gene flow at the landscape level. in *Gene flow and agriculture: Relevance for transgenic crops*, British Crop Protection Council, <http://www.bcp.org/Events/geneflow.htm> (hybridization/scale/general)
- Wright, S. 1943. Isolation by distance. *Genetics*. **28**: p. 114-138. (general/spatial confinement)

Seed Biology and Dispersal

- Cain, M. L. , Milligan, B. G. , and Strand, A. E. 2000. Long-distance seed dispersal in plant populations. *American Journal of Botany*. **87**(9): p. 1217-1227. (seed/general/review/modeling)
- Ennos, R. A. 1994. Estimating the relative rates of pollen and seed migration among plant populations. *Heredity*. **72**(3): p. 250-259. (modeling/general/hybridization/seed/pollen)
- Hu, X. and Ennos, R. A. 1997. On estimation of the ratio of pollen to seed flow among plant populations. *Heredity*. **79**(5): p. 541-552. (pollen/seed/trees/modeling/spatial confinement/general)
- Hu, X.-S. and Ennos, R. A. 1999. Impacts of seed and pollen flow on population genetic structure for plant genomes with three contrasting modes of inheritance. *Genetics*. **152**(1): p. 441-450. (modeling/pollen/seed/spatial confinement/general/scale)
- Narayanaswamy, S. 1998. Seed recovery during processing of some field crops. *Seed Research*. **26**(2): p. 201-203. (general/seed/rice/sunflower/insect-pollinated)
- Peart, D. R. 1985. The quantitative representation of seed and pollen dispersal. *Ecology*. **66**(3): p. 1081-1083. (modeling/pollen/seed/general)

Physical Confinement of Pollen, Seed, and Volunteers

- Stone, J.L., Thomson, J.D., and Dent-Acosta, S.J. 1995. Assessment of pollen viability in hand-pollination experiments: A review. *American Journal of Botany*. **82**(9): p. 1186-1197. (pollen/general/physical confinement)

Bioconfinement

- Bartley, L. E. and Turner, J. T. in press. Assessment of measures to limit gene flow from genetically engineered crops, in *Proceedings of a Conference on Biotechnology in Centers of Origin*. (general/bioconfinement/spatial confinement/review)
- Daniell, H. 1999. Environmentally friendly approaches to genetic engineering. *In Vitro Cellular & Developmental Biology - Plant*. **35**(5): p. 361-368. (general/bioconfinement)
- Daniell, H. 1999. GM crops: public perception and scientific solutions. *Trends in Plant Science*. **4**(12): p. 467-469. (general/bioconfinement)
- Daniell, H. 2002. Molecular strategies for gene containment in transgenic crops. *Nature Biotechnology*. **20**(6): p. 581-586. (general/bioconfinement)
- Daniell, H. and Parkinson, C.L. 2003. Jumping genes and containment. *Nature Biotechnology*. **21**(4): p. 374-375. (bioconfinement/general)
- Day, A. 2003. Antibiotic resistance genes in transgenic plants: their origins, undesirability and technologies for their elimination from genetically modified crops, in *Transgenic plants: Current Innovations and Future Trends.*, Stewart, C.N., Editor. Horizon Scientific Press, Norfolk, England. p. 111-156. (bioconfinement/general)
- Gatz, C. 1997. Chemical control of gene expression. *Annual Review of Plant Physiology and Plant Molecular Biology*. **48**: p. 89-108. (general/bioconfinement)
- Gatz, C. and Lenk, I. 1998. Promoters that respond to chemical inducers. *Trends in Plant Science*. **3**(9): p. 352-358. (general/bioconfinement)
- Gressel, J. 1999. Tandem constructs: preventing the rise of superweeds. *Trends in Biotechnology*. **17**(9): p. 361-366. (weed/bioconfinement/general)
- Hare, P.D. and Chua, N.-H. 2002. Excision of selectable marker genes from transgenic plants. *Nature Biotechnology*. **20**: p. 575-580. (bioconfinement/general)

- Lu, B.-R. 2003. Transgene containment by molecular means -- is it possible and cost effective? *Environmental Biosafety Research*. **2**: p. 3-8. (bioconfinement/general)
- Martin, W. 2003. Gene transfer from organelles to the nucleus: Frequent and in big chunks. *PNAS*. **100**(15): p. 8612-8614. (review/tobacco/bioconfinement/review/insect-pollinated)
- NRC, (U.S. National Research Council) 2004. *Biological confinement of genetically engineered organisms*. Washington, D.C.: National Academies Press. 216. (bioconfinement/general/review)
- Perez-Prat, E. and Campagne, M. M. van L. 2002. Hybrid seed production and the challenge of propagating male-sterile plants. *Trends in Plant Science*. **7**(5): p. 199-203. (bioconfinement/pollen/general)
- Senior, I. J. and Dale, P. J. 1999. Molecular aspects of multiple transgenes and gene flow to crops and wild relatives. in *Gene flow and agriculture: relevance for transgenic crops. Proceedings of a symposium held on 12-14 April*. Keele, UK: British Crop Protection Council. (general/bioconfinement)
- Timmis, J.N., et al. 2004. Endosymbiotic gene transfer: Organelle genomes forge eukaryotic chromosomes. *Nature Reviews Genetics*. **5**(2): p. 123-135. (bioconfinement/general)
- Williams, M. E. 1995. Genetic engineering for pollination control. *Trends in Biotechnology*. **13**(9): p. 344-349. (general/bioconfinement/pollen)
- Zuo, J. and Chua, N. 2000. Chemical-inducible systems for regulated expression of plant genes. *Current Opinion in Biotechnology*. **11**(2): p. 146-151. (bioconfinement/general)

Modeling

- Cain, M. L. , Milligan, B. G. , and Strand, A. E. 2000. Long-distance seed dispersal in plant populations. *American Journal of Botany*. **87**(9): p. 1217-1227. (seed/general/review/modeling)
- Cruywagen, G. C. , et al. 1996. Competition in a spatially heterogeneous environment: modelling the risk of spread of a genetically engineered population. *Theoretical Population Biology*. **49**(1): p. 1-38. (modeling/variability/consequences/general)
- Di-Giovanni, F., Kevan, P.G., and Nasr, M.E. 1995. The variability in settling velocities of some pollen and spores. *Grana*. **34**: p. 39-44. (modeling/pollen/general)
- Gage, S. H. , Isard, S. A. , and Colunga-G, M. 1999. Ecological scaling of aerobiological dispersal processes. *Agricultural and Forest Meteorology*. **97**(4): p. 249-261. (modeling/scale/pollen/general)
- Gouyon, P. H. , et al. 2001. Modelling GMO impact: why and how? *Comptes rendus de l'Académie d'Agriculture de France*. **87**(5): p. 21-30. (modeling/pollen/seed/French/general)
- Hu, X. and Ennos, R. A. 1997. On estimation of the ratio of pollen to seed flow among plant populations. *Heredity*. **79**(5): p. 541-552. (pollen/seed/trees/modeling/spatial confinement/general)
- Hu, X.-S. and Ennos, R. A. 1999. Impacts of seed and pollen flow on population genetic structure for plant genomes with three contrasting modes of inheritance. *Genetics*. **152**(1): p. 441-450. (modeling/pollen/seed/spatial confinement/general/scale)
- Kareiva, P. , Manasse, R. , and Morris, W. 1991. Using models to integrate data from field trials and estimate risks of gene escape and gene spread. in *Biological monitoring of genetically engineered plants and microbes. Proceedings of the Kiawah Island Conference, South Carolina, USA, 27-30 November 1990*. South Carolina: Agricultural Research Institute. (modeling/hybridization/consequences/general)
- King, A.W. 1991. Translating models across scales in the landscape., in *Quantitative Methods in Landscape Ecology*, Turner, M.G. and Gardner, R., Editors. Springer-Verlag, New York. p. pp. 479-517. (modeling/scale/general)
- King, A. W. and With, K. A. 2002. Dispersal success on spatially structured landscapes: when do spatial pattern and dispersal behavior really matter? *Ecological Modelling*. **147**(1): p. 23-39. (modeling/scale/general)
- Lavigne, C. , et al. 1996. A method to determine the mean pollen dispersal of individual plants growing within a large pollen source. *Theoretical and Applied Genetics*. **93**(8): p. 1319-1326. (modeling/pollen/scale/general)
- Levin, S.A. 1992. The problem of pattern and scale in ecology. *Ecology*. **73**: p. 1943-1967. (modeling/scale/general)
- Peart, D. R. 1985. The quantitative representation of seed and pollen dispersal. *Ecology*. **66**(3): p. 1081-1083. (modeling/pollen/seed/general)
- Sork, V. L. , et al. 1999. Landscape approaches to historical and contemporary gene flow in plants. *Trends in Ecology & Evolution*. **14**(6): p. 219-224. (modeling/hybridization/general/scale)

Detection and Monitoring

- Anklam, E., et al. 2002. Analytical methods for detection and determination of genetically modified organisms in agricultural crops and plant-derived food products. *European Food Research and Technology*. **214**: p. 3-26. (general/detection)
- Anklam, E. and Newmann, D.A. 2002. Method development in relation to regulatory requirements for detection of GMOs in the food chain. *Journal of AOAC (Assoc. of Analytical Communities) International*. **85**: p. 754-756. (general/detection)
- Auer, C. A. 2003. Tracking genes from seed to supermarket: techniques and trends. *Trends in Plant Science*. **8**(12): p. 591-7. (detection/general)
- Brett, G.M., et al. 1999. Design and development of immunoassays for detection of proteins. *Food Control*. **10**: p. 401-401. (detection/general)

- Hudson, L.C., Chamberlain, D., and Stewart, C.N. 2001. GFP-tagged pollen to monitor pollen flow of transgenic plants. *Molecular Ecology Notes*. **1**: p. 321-324. (general/pollen/monitoring/detection)
- Kareiva, P. , Morris, W. , and Jacobi, C. M. 1994. Studying and managing the risk of cross-fertilization between transgenic crops and wild relatives. *Molecular Ecology*. **3**(1): p. 15-21. (monitoring/scale/consequences/general)
- Kjellsson, G. and Strandberg, M. 2001. *Monitoring and surveillance of genetically modified higher plants. Guidelines for procedures and analysis of environmental effects.*, Verlag, Basel: Birkhauser. 119 pp. (monitoring/general)
- Marillonnet, S., Klimyuk, V. , and Gleba, Y. 2003. Encoding technical information in GM organisms. *Nature biotechnology*. **21**: p. 224-226. (detection/monitoring/general)
- Marvier, M. 2002. Improving risk assessment for nontarget safety of transgenic crops. *Ecological Applications*. **12**(4): p. 1119-1124. (general/monitoring)
- Stave, J.W. 2002. Protein immunoassay methods for detection of biotech crops: applications, limitations and practical considerations. *Journal of AOAC International*. **85**: p. 780-786. (detection/monitoring/general)
- Stewart, C.N. 2001. The utility of green fluorescent protein in transgenic plants. *Plant Cell Reports*. **20**: p. 376-382. (monitoring/detection/general)
- Terry, C.F., Harris, N., and Parkes, H.C. 2002. Detection of genetically modified crops and their derivatives: critical steps in sample preparation and extraction. *Journal of AOAC International*. **85**: p. 768-774. (detection/general)
- Trapmann, S., *et al.* 2002. Production of certified reference materials for the detection of genetically modified organisms. *Journal of AOAC International*. **85**: p. 775-779. (detection/monitoring/general)
- Wiseman, G. 2002. State of the art and limitations of quantitative polymerase chain reaction. *Journal of AOAC International*. **85**: p. 792-796. (detection/general)

PREDOMINANTLY WIND-POLLINATED CROPS (maize, sugar beet, trees; Note: Brassicas listed with insect-pollinated crops)

General:

Maize

- Giddings, L.V., Dilley, A.P., and Starke, L. (eds.) 1990. Workshop on safeguards for planned introduction of transgenic corn and wheat. Keystone, Colorado: Animal and Plant Health Inspection Service, United States Department of Agriculture. <http://www.aphis.usda.gov/brs/pdf/corn-wheat.pdf>.
- OECD, (Organisation for Economic Cooperation and Development) 2003. *Consensus document on the biology of Zea mays (maize)*, in *Series on Harmonization of Regulatory Oversight in Biotechnology, Number 27*. OECD Environment, Health and Safety Publication. (maize)
http://www.oecd.org/document/51/0,2340,en_2649_34385_1889395_1_1_1_1,00.html
- Wych, R. D. 1988. Production of hybrid corn seed, in *Corn and corn improvement, 3rd. edition*, Sprague, G.F. and Dudley, J.W., Editors. American Society of Agronomy: Madison, WI. p. 565-607. (maize/spatial confinement)

Other

- OECD, (Organisation for Economic Cooperation and Development)2001. *Consensus document on the biology of Beta vulgaris L. (Sugar beet)*. in *Series on Harmonization of Regulatory Oversight in Biotechnology, Number 18*. OECD Environment, Health and Safety Publication. (beet)
http://www.oecd.org/document/51/0,2340,en_2649_34385_1889395_1_1_1_1,00.html

Pollen Biology and Pollination Variability (e.g., Timing):

- Anderson, S. R., *et al.* 2004. Pollination timing effects on kernel set and silk receptivity in four maize hybrids. *Crop Science*. **44**(2): p. 464-473. (maize/timing)
- Aylor, D. E. 2003. Rate of dehydration of corn (*Zea mays* L.) pollen in the air. *J. Exp. Bot.* **54**(391): p. 2307-2312. (maize/pollen/modeling)
- Aylor, D. E. 2004. Survival of maize (*Zea mays*) pollen exposed in the atmosphere. *Agricultural and Forest Meteorology*. **123**(3-4): p. 125-133. (maize/pollen/modeling)
- Carcova, J., *et al.* 2000. Synchronous pollination within and between ears improves kernel set in maize. *Crop Science*. **40**(4): p. 1056-1061. (maize/variability/timing/pollen)
- Carcova, J. and Otegui, M. E. 2001. Ear temperature and pollination timing effects on maize kernel set. *Crop Science*. **41**(6): p. 1809-1815. (maize/variability/timing/pollen)
- Darby, H. M. and Lauer, J. G. 2002. Planting date and hybrid influence on corn forage yield and quality. *Agronomy Journal*. **94**(2): p. 281-289. (maize/timing)
- Fonseca, A. E., Westgate, M. E., and Doyle, R. T. 2002. Application of fluorescence microscopy and image analysis for quantifying dynamics of maize pollen shed. *Crop Sci*. **42**(6): p. 2201-2206. (maize/pollen/monitoring)
- Goss, J.A. 1968. Development, physiology and bio-chemistry of corn and wheat pollen. *Bot. Rev.* **34**: p. 333-358. (pollen/maize/wheat/self-pollinated)
- Hall, A. J., Lemcof, J. H. , and Trapani, N. 1981. Water stress before and during flowering in maize and its effect on yield, its components, and their determinants. *Maydica*. **26**(1): p. 19-38. (maize/pollen/timing)
- Hall, A. J., *et al.* 1982. The effects of water stress and genotype on the dynamics of pollen-shedding and silking in maize. *Field Crops Research*. **5**(4): p. 349-363. (maize/pollen/timing)
- Herrero, M. P. and Johnson, R. R. 1980. High temperature stress and pollen viability of maize. *Crop Science*. **20**(6): p. 796-800. (maize/pollen/variability)
- Johnson, R.R. and Herrero, M.P. 1991. Corn pollination under moisture and high temperature stress. in *36th Annual Corn and Sorghum Industry Res. Conf., Chicago. 9–11 Dec. 1981*. Chicago, IL: American Seed Trade Assoc., Washington, DC. (maize/pollen/variability)
- Jones, M.D. and Newell, N.C. 1948. Longevity of pollen and stigmas of grasses: Buffalograss, *Buchloe dactyloedees* (NUTT) Engelm., and corn, *Zea mays* L.J. *American Society of Agronomy*. **40** (30): p. 195-204. (maize/pollen)
- Luna, V.S., *et al.* 2001. Maize pollen longevity and distance isolation requirements for effective pollen control. *Crop Science*. **41**(5): p. 1551-1557. (maize/pollen/spatial confinement)
- Narayanaswamy, S. and Swamy, K. K. M. 1996. Influence of natural ageing on crop performance and yield of hybrid maize (*Zea mays* L.). *Seed Research*. **24**(2): p. 93-96. (maize/seed/timing)
- Schooper, J.B. , *et al.* 1987. Plant factors controlling seed set in maize: the influence of silk pollen, and pollen, and ear-leaf water status and tassel heat treatment at pollination. *Plant Physiology*. **83**(a): p. 121-125. (maize/pollen/timing/variability)
- Schooper, J.B., Lambert, R.J., and Vasilas, B.L. 1987. Pollen viability, pollen shedding, and combining ability for tassel heat tolerance in maize. *Crop Science*. **27**(b): p. 27-31. (maize/pollen/variability)
- Uribelarrea, M., *et al.* 2002. Pollen production, pollination dynamics, and kernel set in maize. *Crop Science*. **42**(6): p. 1910-1918. (maize/pollen/timing/variability)

Pollen Dispersal, Hybridization, and Spatial Confinement:*Maize*

- Bateman, A.J. 1947. Contamination of seed crops. II. Wind pollination. *Heredity*. **1**: p. 235-246. (wind-pollinated)
- Baltazar, M. and Schoper, J.B. 2002. Crop-to-crop gene flow: dispersal of transgenes in maize during field tests and commercialization. in *7th International Symposium on The Biosafety of Genetically Modified Organisms*, Oct 10-16. Beijing, China. <http://www.bba.de/gentech/isbgmo.pdf> (maize/pollen/hybridization)
- Burris, J.S., et al. 2001. *Adventitious pollen intrusion into hybrid maize seed production fields*. White Paper for AOSCA funded by USDA/FAS/EMP and ASTA. p. 21. (maize/hybridization/spatial confinement) http://www.amseed.com/govt_statementsDetail.asp?id=69
- Burris, J.S. 2002. *Review of hybrid maize and soybean seed purity as influenced by production practices*. ASTA Corn Research Committee. p. 14. (maize/seed)
- Cervantes Martínez, J. E. , et al. 2001. Pollen dispersal and gene flow among adjacent maize populations. *Agricultura Técnica en México*. **27**(1): p. 13-25. (maize/hybridization/pollen/Spanish)
- Das, K. G. S. 1986. Vicinity distance studies of hybrid seed production in maize (*Zea mays* L.) at Bangalore. *Mysore Journal of Agricultural Sciences*. **20** (4): p. 340. (maize/spatial confinement)
- Ellstrand, N. C. 2003. Going to "great lengths" to prevent the escape of genes that produce specialty chemicals. *Plant Physiology*. **132**(4): p. 1770-1774. (general/maize/spatial confinement)
- Emberlin, J., Adams-Groom, B., and Tidmarsh, J. 1999. *A Report on the dispersal of maize pollen*. UK Soil Association. <http://www.mindfully.org/GE/Dispersal-Maize-Pollen-UK.htm> (maize/hybridization/pollen/spatial confinement)
- Garcia, C. M. , et al. 1998. Pollen control during transgenic hybrid maize development in Mexico. *Crop Science*. **38**(6): p. 1597-1602. (maize/hybridization)
- Haskell, G. and Dow, P. 1951. Studies with Sweet Corn. V. Seed-settings with distances from pollen source. *Empire J. Exp. Agric.*. **19**: p. 45-50. (maize/spatial confinement/hybridization/pollen)
- Henry, C., Morgan, D., and Weekes, R. 2003. *Farm scale evaluations of GM crops: monitoring gene flow from GM crops to non-GM equivalent crops in the vicinity (contract reference EPG 1/5/138). Part I: Forage Maize. Final Report, 2000/2003*. p. 1-25. http://www.defra.gov.uk/environment/gm/research/pdf/epg_1-5-138.pdf (maize/spatial confinement/hybridization/pollen/variability)
- Ingram, J. 2000. The separation distances required to ensure cross-pollination is below specified limits in non-seed crops of sugar beet, maize and oilseed rape. *Plant Varieties and Seeds*. **13**(3): p. 181-199. (general/maize/Brassica/beet/review/spatial confinement/insect-pollinated/wind-pollinated)
- Jemison, J. M. Jr. and Vayda, M.E. 2001. Cross pollination from genetically engineered corn: wind transport and seed source. *AgBioForum*. **4**(2): p. 87-92. (maize/pollen/spatial confinement)
- Jones, M.D. and Brooks, J.S. 1950. *Effectiveness of distance and border rows in preventing outcrossing in corn*, in *Oklahoma Agriculture Experiment Station Technical Bulletin 38*. (maize/spatial confinement/physical confinement)
- Luna, V.S., et al. 2001. Maize pollen longevity and distance isolation requirements for effective pollen control. *Crop Science*. **41**(5): p. 1551-1557. (maize/pollen/spatial confinement)
- Ma, B. L., Subedi, K. D., and Reid, L. M. 2004. Extent of cross-fertilization in maize by pollen from neighboring transgenic hybrids. *Crop Science*. **44**(4): p. 1273-1282. (maize/pollen/variability/spatial confinement/physical confinement)
- MAP, (Ministère de l'Agriculture et de la Pêche) 2002. *Report of the commission of biomolecular genetics and of the provisional committee of biovigilance on field experimentation of transgenic plants*. (maize/pollen/spatial confinement/scale)
- Narayanaswamy, S., Jagadish, G. V. , and Ujjinaiah, U. S. 1997. Determination of isolation distance for hybrid maize seed production. *Current Research - University of Agricultural Sciences (Bangalore)*. **26**(11): p. 193-195. (maize/hybridization/pollen/spatial confinement)
- Raynor, G. S. , Ogden, E. C., and Hayes, J. V. 1972. Dispersion and deposition of corn pollen from experimental sources. *Agronomy Journal*. **64**(4): p. 420-427. (maize/pollen/spatial confinement/modeling)

Other

- Lavigne, C., Klein, E. K. , and Couvet, D. 2002. Using seed purity data to estimate an average pollen mediated gene flow from crops to wild relatives. *Theoretical and Applied Genetics*. **104**(1): p. 139-145. (modeling/pollen/hybridization/beet/wild relatives/spatial confinement/insect-pollinated/wind-pollinated)
- Raynor, G. S., Ogden, E. C. , and Hayes, J. V. 1973. Dispersion of pollens from low-level, crosswind line sources. *Agricultural Meteorology*. **11**(2): p. 177-195. (pollen/modeling/wind-pollinated)
- Saeglitz, C., Pohl, M., and Bartsch, D. 2000. Monitoring gene flow from transgenic sugar beet using cytoplasmic male-sterile bait plants. *Molecular Ecology*. **9**(12): p. 2035-2040. (beet/monitoring/wind-pollinated/bioconfinement/spatial confinement/insect-pollinated)

Seed Biology and Dispersal:*Maize*

Mellon, M. and Rissler, J. 2004. *Gone to seed: Transgenic contaminants in the traditional seed supply*. Union of Concerned Scientists. 70 p. (general/seed/maize)

Other

Arnaud, J.-F., *et al.* 2003. Evidence for gene flow via seed dispersal from crop to wild relatives in *Beta vulgaris* (Chenopodiaceae): consequences for the release of genetically modified crop species with weedy lineages. *Proceedings of the Royal Society of London*. (beet/wind-pollinated/insect-pollinated/seed/weed/wild relatives)

Ennos, R. A. 1994. Estimating the relative rates of pollen and seed migration among plant populations. *Heredity*. **72**(3): p. 250-259. (modeling/general/hybridization/seed/pollen/trees/wind-pollinated)

Physical Confinement of Pollen, Seed, and Volunteers:

Maize

Cremer, J., Rasche, E., and Donn, G. 1995. Volunteer management of glufosinate resistant transgenic crops (maize, soybean, oil seed rape, sugar beets). in *Proceedings of a workshop on: Key biosafety aspects of genetically modified organisms, April 10-11*. Braunschweig, Germany. <http://www.bba.de/gentech/workshop.htm> (physical confinement/seed/maize/Brassica/beet)

Hutchcroft, C.D. 1958. Contamination in seed fields of corn resulting from incomplete detasseling. *Agronomy Journal*. p. 267-271. (maize/pollen/physical confinement)

Jones, M.D. and Brooks, J.S. 1950. *Effectiveness of distance and border rows in preventing outcrossing in corn*, in *Oklahoma Agricultural Experiment Station Technical Bulletin 38*. (maize/spatial confinement/physical confinement)

Jones, M.D. and Brooks, J.S. 1952. *Effect of tree barriers on outcrossing in corn*, in *Oklahoma Agricultural Experimental Station, Technical Bulletin No T-45*. (maize/hybridization/physical confinement)

Ma, B. L., Subedi, K. D., and Reid, L. M. 2004. Extent of cross-fertilization in maize by pollen from neighboring transgenic hybrids. *Crop Science*. **44**(4): p. 1273-1282. (maize/pollen/variability/spatial confinement/physical confinement)

Stevens, G. 2002. Implications of pollen research to APHIS pharmaceutical corn regulations. *ISB News Report*. p. 4-6. (maize/pollen/physical confinement (detasseling))

Bioconfinement:

Maize

Evans, M. M. S. and Kermicle, J. L. 2001. Teosinte crossing barrier1, a locus governing hybridization of teosinte with maize. *Theoretical and Applied Genetics*. **103**(2/3): p. 259-265. (bioconfinement/maize/pollen)

Evans, M. M. S. and Kermicle, J. L. 2001. Interaction between maternal effect and zygotic effect mutations during maize seed development. *Genetics*. **159**(1): p. 303-315. (maize/bioconfinement/seed/pollen)

Feil, B. and Stamp, P. 2002. The pollen-mediated flow of transgenes in maize can already be controlled by cytoplasmic male sterility. *AgBiotechNet*. **4**(ABN 099): p. 1-4. (maize/bioconfinement/pollen)

Feil, B., Weingartner, U., and Stamp, P. 2003. Controlling the release of pollen from genetically modified maize and increasing its grain yield by growing mixtures of male-sterile and male-fertile plants. *Euphytica*. **130**(2): p. 163-165. (maize/pollen/bioconfinement)

Gilbertson, L., *et al.* 2003. Cre/lox mediated marker gene excision in transgenic crop plants. in *Plant biotechnology 2002 and beyond. Proceedings of the 10th IAPTC&B Congress, Orlando, Florida, USA, 23-28 June, 2002*. Dordrecht, Netherlands: Kluwer Academic Publishers. (maize/general/bioconfinement)

Westgate, M. E., Lizaso, J., and Batchelor, W. D. 2003. Quantitative relationships between pollen shed density and grain yield in maize. *Crop Sci*. **43** (3): p. 934-942. (maize/bioconfinement/pollen (cultivation of male steriles))

Other

Saeglitz, C., Pohl, M., and Bartsch, D. 2000. Monitoring gene flow from transgenic sugar beet using cytoplasmic male-sterile bait plants. *Molecular Ecology*. **9**(12): p. 2035-2040. (beet/monitoring/wind-pollinated/bioconfinement/spatial confinement/insect-pollinated)

Strauss, S. H., *et al.* 1995. Genetic engineering of reproductive sterility in forest trees. *Molecular Breeding*. **1**(1): p. 5-26. (bioconfinement/pollen/review/trees/wind-pollinated)

Yui, R., *et al.* 2003. Antisense inhibition of mitochondrial pyruvate dehydrogenase E; subunit in anther tapetum causes male sterility. *Plant Journal*. **34**(1): p. 57-66. (beet/bioconfinement/pollen/insect-pollinated/wind-pollinated)

Modeling:

Maize

Aylor, Donald E. 2002. Settling speed of corn (*Zea mays*) pollen. *Journal of Aerosol Science*. **33**(11): p. 1601-1607. (maize/modeling/pollen/wind-pollinated)

Aylor, D.E., Schultes, N.P., and Shields, E.J. 2003. An aerobiological framework for assessing cross-pollination in

- maize. *Agricultural and Forest Meteorology*. **119**(3-4): p. 111-129. (modeling/wind-pollinated/maize)
- Ireland, D. S., Westgate, M.E., and Ashton, B.A. 2001. Combining ISCST3 and AERMOD particulate dispersion models to quantify maize pollen distribution (Abstract). in *ASACSSA-SSSA Annual Meetings , October 21-25*. Charlotte, NC. (modeling/pollen/maize)
- Klein, E. K. , *et al.* 2003. Corn pollen dispersal: quasi-mechanistic models and field experiments. *Ecological Monographs*. **73**(1): p. 131-150. (maize/modeling/pollen)
- Raynor, G. S., Ogden, E. C., and Hayes, J. V. 1972. Dispersion and deposition of corn pollen from experimental sources. *Agronomy Journal*. **64**(4): p. 420-427. (maize/pollen/spatial confinement/modeling)
- Shaw, R. H. , Ward, D. P. , and Aylor, D. E. 1979. Frequency of occurrence of fast gusts of wind inside a corn canopy. *Journal of Applied Meteorology*. **18**(2): p. 167-171. (maize/modeling/variability)

Other

- Austerlitz, F. , *et al.* 2004. Using genetic markers to estimate the pollen dispersal curve. *Molecular Ecology*. **13**(4): p. 937-954. (modeling/pollen/trees/wind-pollinated)
- Aylor, D.E. 1975. Deposition of particles in a plant canopy. *Journal of Applied Meteorology*. **14**: p. 52-57. (modeling/wind-pollinated/pollen)
- Chamberlain, A.C. and Chadwick, R.C. 1972. Deposition of spores and other particles on vegetation and soil. *Ann. Appl. Biol.* **71**: p. 141-158. (modeling/pollen/wind-pollinated)
- Di-Giovanni, F. and Kevan, P.G. 1991. Factors affecting pollen dynamics and its importance to pollen contamination: a review. *Canadian Journal of Forest Research*. **21**(8): p. 1155-1170. (wind-pollinated/review/pollen/modeling)
- Ennos, R. A. 1994. Estimating the relative rates of pollen and seed migration among plant populations. *Heredity*. **72**(3): p. 250-259. (modeling/general/hybridization/seed/pollen/trees/wind-pollinated)
- Giddings, G. D. , *et al.* 1997. The release of genetically modified grasses. Part 2: The influence of wind direction on pollen dispersal. *Theoretical and Applied Genetics*. **94**(8): p. 1007-1014. (modeling/wind-pollinated)
- Giddings, G. D. , *et al.* 1997. The release of genetically modified grasses. Part 1: Pollen dispersal to traps in *Lolium perenne*. *Theoretical and Applied Genetics*. **94**(8): p. 1000-1006. (modeling/wind-pollinated)
- Giddings, G. 2000. Modelling the spread of pollen from *Lolium perenne*. The implications for the release of wind-pollinated transgenics. *Theoretical and Applied Genetics*. **100**(6): p. 971-974. (modeling/pollen/wind-pollinated/scale)
- Meagher, T. R., Belanger, F. C., and Day, P. R. 2003. Using empirical data to model transgene dispersal. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*. **358**(1434): p. 1157-1162. (modeling/wind-pollinated/pollen)
- Okubo, A. and Levin, S. A. 1989. A theoretical framework for data analysis of wind dispersal of seeds and pollen. *Ecology, USA*. **70**(2): p. 329-338. (modeling/seed/pollen/trees/wind-pollinated)
- Squire, G. R. , *et al.* 1999. Gene flow at the landscape level. in *Gene flow and agriculture: relevance for transgenic crops*. Keele, UK: British Crop Protection Council. <http://www.bcp.org/Events/geneflow.htm> (modeling/Brassica/insect-pollinated/scale/wind-pollinated)

Detection and Monitoring

Maize

- Hernandez, M., *et al.* 2003. A specific real-time quantitative PCR detection system for event MON810 in maize YieldGard based on the 3'- transgene integration sequence. *Transgenic Research*. **12**: p. 179-189. (maize/monitoring/detection)
- Lipp, M., *et al.* 1999. IUPAC collaborative trial study of a method to detect genetically modified soy beans and maize in dried powder. *Journal of AOAC International*. **82**(4): p. 923-928. (monitoring/detection/maize)
- Lipp, M., *et al.* 1999. Results of an interlaboratory assessment of a screening method of genetically modified organisms in soy beans and maize. *Food Control*. **10**(6): p. 379-383. (maize/detection)
- Saeglitz, C. , Pohl, M. , and Bartsch, D. 2000. Monitoring gene flow from transgenic sugar beet using cytoplasmic male-sterile bait plants. *Molecular Ecology*. **9**(12): p. 2035-2040. (beet/monitoring/wind-pollinated/bioconfinement/spatial confinement/insect-pollinated)
- Vaitilingom, M., *et al.* 1999. Real-time quantitative PCR detection of genetically modified Maximizer maize and Roundup Ready soybeans in some representative food products. *J. Agricultural and Food Chemistry*. **47**: p. 5261-5266. (detection/maize/monitoring)

PREDOMINANTLY SELF-POLLINATED CROPS (rice, barley, wheat)

General:

Rice

- Coffmann, R., McCouch, S. R., and Herdt, R.W. 2004. Biotechnology and its implications for production and trade. in *FAO Rice Conference*. Rome, Italy. <http://www.fao.org/rice2004/en/e-001.htm>. (rice)
- OECD, (Organisation for Economic Cooperation and Development) 1999. *Consensus document on the biology of Oryza sativa (rice)*, in *Series on Harmonization of Regulatory Oversight in Biotechnology, Number 14*. OECD Environment, Health and Safety Publication. (rice)
http://www.oecd.org/document/51/0,2340,en_2649_34385_1889395_1_1_1_1,00.html
- Schuh, W., et al. 1993. The phenotypic characterization of R2 generation transgenic rice plants under field conditions. *Plant Sci.* **89**: p. 69-79. (rice/variability)

Barley

- Bregitzer, P., Halbert, S.E., and Lemaux, P.G. 1998. Somaclonal variation in the progeny of transgenic barley. *Theor. Appl. Genet.* **96**: p. 421-425. (barley/variability/self-pollinated)
- Von Bothmer, R., et al. 2003. *Diversity in barley (Hordeum vulgare)*. Amsterdam, Netherlands: Elsevier Science B.V. xvii + 280 pp. (barley/variability/self-pollinated)

Wheat

- Giddings, L.V., Dilley, A.P., and Starke, L. (eds.) 1990. Workshop on safeguards for planned introduction of transgenic corn and wheat. Keystone, Colorado: Animal and Plant Health Inspection Service, United States Department of Agriculture. <http://www.aphis.usda.gov/brs/pdf/corn-wheat.pdf>.

Pollen Biology and Pollination Variability:

Rice

- Azzini, L.E. and Rutger, J.N. 1982. Amount of outcrossing on different male steriles of rice. *Crop Science*. **22** (5): p. 905-907. (rice/pollen/variability)
- Khatun, S. and Flowers, T. J. 1995. The estimation of pollen viability in rice. *Journal of Experimental Botany*. **46**(282): p. 151-154. (rice/pollen)
- Matsui, T., Omasa, K., and Horie, T. 1999. Mechanism of anther dehiscence in rice (*Oryza sativa* L.). *Annals of Botany*. **84**(4): p. 501-506. (rice/pollen)
- Matsui, T. and Kagata, H. 2003. Characteristics of floral organs related to reliable self-pollination in rice (*Oryza sativa* L.). *Annals of Botany*. **91**(4): p. 473-477. (rice/pollen)
- Song, Z.P., Lu, B.-R., and Chen, J.K. 2001. A study of pollen viability and longevity in *Oryza rufipogon*, *O. sativa*, and their hybrids. *International Rice Research Notes*. **26**: p. 31-32. (rice/pollen/variability)
<http://www.irri.org/publications/irrn/pdfs/vol26no2/irrn262genetic.pdf>

Wheat

- Goss, J.A. 1968. Development, physiology and bio-chemistry of corn and wheat pollen. *Bot. Rev.* **34**: p. 333-358. (pollen/maize/wheat)

Pollen Dispersal, Hybridization (inter-crop and with relatives), and Spatial Confinement:

Rice

- Chen, L. J., et al. 2002. Field assessment of herbicide resistance gene flow to weedy rice (*Oryza sativa*). in *International Rice Congress; September 16-20, 2002; Beijing, China*. (rice/weed/hybridization)
- Chen, L., et al. 2004. Gene flow from cultivated rice (*Oryza sativa*) to its weedy and wild relatives. *Annals of botany*. **93**(1): p. 67-73. (rice/hybridization/weed/wild relatives)
- Estorninos Jr., L. E., et al. 2002. Determination of hybridization between rice and red rice using four microsatellite markers. *Proc. South. Weed Sci. Soc.* **55**: p. 197-198. (weed/rice/hybridization)
- Fogher, C., Baldi, G., and Lorenzoni, C. 2001. Field assessment of the gene flow from genetically modified rice to cultivated varieties. *Sementi Elette*. **47**(5): p. 45-47. (rice/hybridization/Italian)
- Gealy, D. R., Mitten, D. H., and Rutger, J. N. 2003. Gene flow between red rice (*Oryza sativa*) and herbicide-resistant rice (*O. sativa*): implications for weed management. *Weed Technology*. **17**(3): p. 627-645. (rice/weed/hybridization/consequences)
- Khush, G. S. 1993. *Floral structure, pollination biology, breeding behaviour, transfer distance and isolation considerations.*, in *Biotechnology Series No. 1, Rice Biosafety.*, Foundation, T.R., Editor. World Bank Technical paper. (rice/pollen/hybridization/spatial confinement)
- Langevin, S. A., Clay, K., and Grace, J.B. 1990. The incidence and effects of hybridization between cultivated rice and its related weed red rice (*Oryza sativa* L.). *Evolution*. **44**: p. 1000-1008. (weed/rice/hybridization/consequences)
- Messeguer, J., et al. 2001. Field assessments of gene flow from transgenic to cultivated rice (*Oryza sativa* L.) using a herbicide resistance gene as tracer marker. *Theoretical and Applied Genetics*. **103**(8): p. 1151-1159.

(rice/hybridization/spatial confinement)

- Messeguer, J., *et al.* 2004. A field study of pollen-mediated gene flow from Mediterranean GM rice to conventional rice and the red rice weed. *Molecular Breeding*. **13**(1): p. 103-112. (rice/hybridization/spatial confinement/weed)
- Oard, J., *et al.* 2000. Field evaluation of seed production, shattering, and dormancy in hybrid populations of transgenic rice (*Oryza sativa*) and the weed, red rice (*Oryza sativa*). *Plant Science (Limerick)*. **157**(1): p. 13-22. (rice/weed/consequences/hybridization/seed)
- Rutger, J. N. 1993. *New World hybridization candidates for cultivated rice*, in *Rice Biosafety: World Bank Technical Paper*, Clegg, M.T., *et al.*, Editors. p. Pp. A-21–A-22.. (rice/hybridization/wild relatives)
- Sagers, C.L., Nigemann, S., and Novak, S. 2002. Ecological risk assessment for the release of transgenic rice in southeastern Arkansas. in *Scientific Methods Workshop: Ecological and Agronomic Consequences of Gene Flow from Transgenic Crops to Wild Relatives*. Columbus, OH. (rice/weed/hybridization)
- Sanders, D. E. , *et al.* 1998. Outcrossing potential of Liberty Link rice to red rice. in *Proceedings of the Twenty-Seventh Rice Technical Working Group*. (rice/weed/hybridization)
- Song, Z., Lu, B.-R., and Chen, J. 2004. Pollen flow of cultivated rice measured under experimental conditions. *Biodiversity and Conservation*. **13**(3): p. 579-590. (rice/hybridization/spatial confinement)
- Wheeler, C. and TeBeest, D. 2002. Hybridization of glufosinate tolerant rice (*Oryza sativa*) and red rice (*Oryza sativa*), in *B. R. Wells Rice Research Studies–2001. Fayetteville: University of Arkansas Agricultural Experiment Station, Research Series 495.*, Norman, R.J. and Meullent, J.-F., Editors. p. 58–64. (rice/weed/hybridization)
- Zhang, N., Linscombe, S., and Oard, J. 2003. Out-crossing frequency and genetic analysis of hybrids between transgenic glufosinate herbicide-resistant rice and the weed, red rice. *Euphytica*. **130**(1): p. 35-45. (rice/weed/hybridization)

Barley

- Chaudhary, H. R. , Jana, S. , and Acharya, S. N. 1980. Outcrossing rates in barley populations in the Canadian prairies. *Canadian Journal of Genetics and Cytology*. **22**(3): p. 353-360. (barley/variability/hybridization/self-pollinated)
- Doll, H. 1987. Outcrossing rates in autumn and spring-sown barley. *Plant Breeding*. **98**(4): p. 339-341. (barley/hybridization/self-pollinated)
- Giles, R. J. 1987. *Natural cross-fertilisation in winter barley.*, in *Annual report of the Plant Breeding Institute, 1986.*: Cambridge, UK. p. 35. (barley/hybridization/timing/self-pollinated)
- Giles, R. J. 1989. The frequency of natural cross-fertilisation in sequential sowings of winter barley. *Euphytica*. **43**(1-2): p. 125-134. (barley/hybridization/timing/variability/self-pollinated)
- Ritala, A. , *et al.* 2002. Measuring gene flow in the cultivation of transgenic barley. *Crop Science*. **42**(1): p. 278-285. (barley/hybridization/spatial confinement/self-pollinated)
- Thompson, R.K. 1970. Barley as a cross-pollinated crop. in *Barley Genetics 11, Proc. Sec. Int. Barley Genet. Symp.* (barley/hybridization/self-pollinated)
- Toker, C. and Cagiran, M. I. 2000. Outcrossing on male sterile plants of composite barley *Hordeum vulgare* L. populations. *Turkish Journal of Field Crops*. **5**(1): p. 29-33. (barley/hybridization/variability/bioconfinement/self-pollinated)
- Wagner, D. B. and Allard, R. W. 1991. Pollen migration in predominantly self-fertilizing plants: barley. *Journal of Heredity*. **82**(4): p. 302-304. (barley/pollen/hybridization/spatial confinement/self-pollinated)
- Yoon, E. B. , *et al.* 1991. Studies on the planting distance effect on the open pollination rate in barley. *Research Reports of the Rural Development Administration, Upland & Industrial Crops*. **33**(3): p. 98-102. (barley/hybridization/spatial confinement/Korean/self-pollinated)

Wheat

- Enjalbert, J. , *et al.* 1998. The relevance of outcrossing for the dynamic management of genetic resources in predominantly selfing *Triticum aestivum* L. (bread wheat). *Genetics, Selection, Evolution*. **30**(Supplement): p. S197-S211. (wheat/hybridization/variability)
- Enjalbert, J. and David, J. L. 2000. Inferring recent outcrossing rates using multilocus individual heterozygosity: application to evolving wheat populations. *Genetics*. **156**(4): p. 1973-1982. (wheat/hybridization)
- Guadagnuolo, R., Savova-Bianchi, D., and Felber, F. 2001. Gene flow from wheat (*Triticum aestivum* L.) to jointed goatgrass (*Aegilops cylindrica* Host.) as revealed by RAPD and microsatellite markers. *Theoretical and applied Genetics*. **103**: p. 1-8. (wheat/hybridization/weed)
- Hucl, P. 1996. Out-crossing rates for 10 Canadian spring wheat cultivars. *Canadian Journal of Plant Science*. **76**(3): p. 423-427. (wheat/hybridization/variability/pollen/spatial confinement)
- Hucl, P. and Matus-Cádiz, M. 2001. Isolation distances for minimizing out-crossing in spring wheat. *Crop Science*. **41**(4): p. 1348-1351. (wheat/spatial confinement/variability)
- Khan, M. N. , Heyne, E. G. , and Arp, A. L. 1973. Pollen distribution and the seedset on *Triticum aestivum* L. *Crop Science*. **13**(2): p. 223-226. (wheat/variability/pollen/timing/spatial confinement)

Waines, J. G. and Hegde, S. G. 2003. Intraspecific gene flow in bread wheat as affected by reproductive biology and pollination ecology of wheat flowers. *Crop Science*. **43**(2): p. 451-463. (wheat/variability/spatial confinement)

Seed Biology and Dispersal:

Rice

Cohn, M. A. and Hughes, J. A. 1981. Seed dormancy in red rice (*Oryza sativa*) I. Effect of temperature on dry-afterripening. *Weed Science*. **29**(4): p. 402-404. (rice/weed/seed) [Note: this is one of a series of more than 10 publications on red rice seed dormancy]

Cohn, M.A. 1996. Chemical mechanisms of breaking seed dormancy. *Seed Science Research*. **6**(3): p. 95-99. (rice/weed/seed)

Narayanaswamy, S. 1998. Seed recovery during processing of some field crops. *Seed Research*. **26**(2): p. 201-203. (general/seed/rice/sunflower/insect-pollinated)

Oard, J. , *et al.* 2000. Field evaluation of seed production, shattering, and dormancy in hybrid populations of transgenic rice (*Oryza sativa*) and the weed, red rice (*Oryza sativa*). *Plant Science (Limerick)*. **157**(1): p. 13-22. (rice/weed/consequences/hybridization/seed)

Powers, K.D., Noble, R.E., and Chabreck, R.H. 1978. Seed distribution by waterfowl in southwestern Louisiana. *Journal of Wildlife Management*. **42**(3): p. 598-605. (rice/seed/physical confinement)

Smith, R.J. and Sullivan, J.D. 1980. Reduction of red rice grain in rice fields by winter feeding of ducks. *Arkansas Farm Research*. **29**(4): p. 3. (rice/seed/physical confinement)

Barley

Romagosa, I., *et al.* 1999. Individual locus effects on dormancy during seed development and after ripening in barley. *Crop Science*. **39**(1): p. 74-79. (barley/seed/variability/self-pollinated)

Physical Confinement of Pollen, Seed, and Volunteers:

Rice

Perez, A. T., *et al.* 1973. Induction of male sterility in rice with Ethrel and RH-531. *SABRAO (Society for the Advancement of Research in Asia and Oceania) Newsletter*. **5**(2): p. 133-139. (rice/physical confinement)

Bioconfinement:

Rice

Gressel, J. 2002. Preventing, delaying and mitigating gene flow from crops - rice as an example. in *The 7th International Symposium on the Biosafety of Genetically Modified Organisms, Beijing, China, October 10-16, 2002*. Beijing, China. <http://www.bba.de/gentech/isbgmo.pdf> (rice/bioconfinement/weed/review)

Hoa, T. T. C. , *et al.* 2002. Cre/lox site-specific recombination controls the excision of a transgene from the rice genome. *Theoretical and Applied Genetics*. **104**(4): p. 518-525. (rice/bioconfinement)

Tsuchiya, T., *et al.* 1995. Tapetum-specific expression of the gene for an endo-B-1,3-glucanase causes male sterility in transgenic tobacco. *Plant and Cell Physiology*. **36**(3): p. 487-494. (tobacco/rice (uses a genetic element from rice)/bioconfinement/pollen/insect-pollinated)

Barley

Foster, A.E. and Schooler, B. 1970. Cytoplasmic male-sterility in barley. in *Barley Genetics 11, Proc. Sec. Int. Barley Genet. Symp.* (barley/bioconfinement/pollen/self-pollinated)

Toker, C. and Cagirgan, M. I. 2000. Outcrossing on male sterile plants of composite barley *Hordeum vulgare* L. populations. *Turkish Journal of Field Crops*. **5**(1): p. 29-33. (barley/hybridization/variability/bioconfinement/self-pollinated)

Wheat

De Block, M. , Debrouwer, D. , and Moens, T. 1997. The development of a nuclear male sterility system in wheat. Expression of the barnase gene under the control of tapetum specific promoters. *Theoretical and Applied Genetics*. **95**(1/2): p. 125-131. (bioconfinement/wheat/pollen)

Detection and Monitoring:

Wheat

Rasco-Gaunt, S. , *et al.* 1999. A facile method for screening for phosphinothricin (PPT)-resistant transgenic wheats. *Molecular Breeding*. **5**(3): p. 255-262. (wheat/detection/monitoring)

PARTIALLY or PREDOMINANTLY INSECT-POLLINATED CROPS (safflower, cotton, tobacco, Brassicas, sunflower and *Senecio*, *Cucumis*, tomato, potato;Note: beets are listed with wind-pollinated)

General

General

Crepet, W. L. , *et al.* 1983. *Pollination biology*. Pollination biology, ed. Real, L., Orlando, Florida: Academic Press. xvii + 338 pp. (general/pollen/insect-pollinated)

Safflower

Knowles, P.F. 1980. Safflower, in *Hybridization of Crop Plants*, Fehr, W.F. and Hadley, H.H., Editors. American Society of Agronomy and Crop Science Society of America: Madison, Wisconsin. p. 535-547. (safflower/insect-pollinated)

Li, D. and Mündel, H. H. 1996. *Safflower: Carthamus tinctorius L.*, in *Promoting the Conservation and Use of Underutilized and Neglected Crops 7*. International Plant Genetic Resources Institute (IPGRI): Rome, Italy. p. 83 <http://safflower.wsu.edu/Manual.pdf> (safflower/insect-pollinated)

Oelke, E.A., *et al.* 1992. *Safflower: Alternative field crops manual*. (safflower/insect-pollinated) <http://www.hort.purdue.edu/newcrop/afcm/safflower.html>

Smith, J. R. 1996. *Safflower*. Champaign, IL: AOCS Publishers. 624 pp. (safflower/insect-pollinated)

Weiss, E.A. 1971. *Castor, Sesame, and Safflower*. New York: Barnes and Noble, Inc. (safflower/insect-pollinated)

Brassicas

McCammon, S.A. and Dwyer, S.G. (eds.). 1990. Workshop on safeguards for planned introduction of transgenic oilseed crucifers. Cornell University, Ithaca, NY: Animal Plant Health Inspection Service, USDA. <http://www.aphis.usda.gov/brs/pdf/canola.pdf>. (Brassica)

Other

Schechtman, M.G. and Van Wert, S. (eds.). 1992. Workshop on safeguards for planned introduction of transgenic tomatoes. University of California, Davis, CA: Animal Plant Health Inspection Service, USDA. <http://www.aphis.usda.gov/brs/pdf/tomato.pdf>. (tomato)

Pollination Biology, Pollen Dispersal, Hybridization (Intercrop and Relatives), and Spatial Confinement

General

Bateman, A.J. 1947. Contamination of seed crops. I. Insect pollination. *Journal of Genetics*. **48**: p. 257-275. (insect-pollinated)

Williams, I. H. 2001. Bee-mediated pollen and gene flow from GM plants, in *Acta Horticulturae*, Benedek, P. and Richards, K.W., Editors. International Society for Horticultural Science (ISHS): Leuven, Belgium. p. 25-33. (insect-pollinated/monitoring/physical confinement)

Safflower

Claassen, C.E. 1950. Natural and controlled crossing in Safflower, *Carthamus tinctorius L.* *Agron. J.* **42**: p. 381-384. (safflower)

Cotton

Llewellyn, D. and Fitt, G. 1996. Pollen dispersal from two field trials of transgenic cotton in the Namoi Valley, Australia. *Molecular Breeding*. **2**(2): p. 157-166. (cotton/hybridization/pollen/insect-pollinated)

McGregor, S.E. 1976. *Insect pollination of cultivated crop plants - Cotton*. Agriculture Handbook No. 496: Agricultural Research Service, United States Department of Agriculture. pp. 171-190. (cotton/insect-pollinated)

Reinisch, A.J., *et al.* 1994. A detailed RFLP map of cotton, *Gossypium hirsutum* x *Gossypium barbadense*: Chromosome organization and evolution in a disomic polyploid genome. *Genetics*. **138**: p. 829-847. (cotton/hybridization/insect-pollinated)

Stephens, S.G. 1964. Native Hawaiian cotton (*Gossypium tomentosum* Nutt.). *Pacific Science*. **18**: p. 385-398. (cotton/insect-pollinated)

Sundstrom, F.J. 2001. Pollen transfer in cottonseed production. in *American Seed Trade Association meeting: Biotech evolution of the seed industry: adventitious presence, quality assurance and orderly marketing, April 9*. Chicago, IL. (cotton/pollen/insect-pollinated)

Umbeck, P. F. , *et al.* 1991. Degree of pollen dispersal by insects from a field test of genetically engineered cotton. *Journal of Economic Entomology*. **84**(6): p. 1943-1950. (cotton/insect-pollinated/spatial confinement/physical confinement/monitoring)

Zhang, C., *et al.* 1997. Frequency of 2,4-D resistant gene flow of transgenic cotton. *Scientia Agricultura Sinica*. **30**(1): p. 92-93. (cotton/hybridization/spatial confinement/Chinese/insect-pollinated)

Zhang, B. and Guo, T. 2000. Frequency and distance of pollen dispersal from transgenic cotton. *Chinese Journal of Applied and Environmental Biology*. **6**(1): p. 39-42. (cotton/insect-pollinated/pollen/hybridization/spatial

confinement/Chinese)

Brassicac

- Bergelson, J. , Purrington, C. B. , and Wichmann, G. 1998. Promiscuity in transgenic plants. *Nature (London)*. **395**(6697): p. 25. (self-pollinated/insect-pollinated/Brassica/variability)
- Chèvre, A. M. , *et al.* 1997. Gene flow from transgenic crops. *Nature (London)*. **389**(6654): p. 924. (Brassica/hybridization/weed/insect-pollinated)
- Cresswell, J. E. 1994. A method for quantifying the gene flow that results from a single bumblebee visit using transgenic oilseed rape, *Brassica napus* L. cv. Westar. *Transgenic Research*. **3**(2): p. 134-137. (Brassica/insect-pollinated)
- Cresswell, J. E. 1997. Spatial heterogeneity, pollinator behaviour and pollinator-mediated gene flow: bumblebee movements in variously aggregated rows of oil-seed rape. *Oikos*. **78**(3): p. 546-556. (Brassica/insect-pollinated)
- Cresswell, J. E. and Osborne, J. L. 2004. The effect of patch size and separation on bumblebee foraging in oilseed rape: implications for gene flow. *Journal of Applied Ecology*. **41**(3): p. 539-546. (modeling/insect-pollinated/scale/Brassica)
- Dale, P. J. , *et al.* 1992. *Gene dispersal from transgenic plants*. Annual report 1992, AFRC Institute of Plant Science Research, Cambridge Laboratory, John Innes Institute, Nitrogen Fixation Laboratory and Sainsbury Laboratory., Norwich, UK. 9-11. (Brassica/spatial confinement/potato/insect-pollinated)
- Dale, P. J. and Scheffler, J. A. 1996. Gene dispersal from transgenic crops., in *Transgenic organisms and biosafety: horizontal gene transfer, stability of DNA, and expression of transgenes.*, Schmidt, E.R. and Hankeln, T., Editors. Springer-Verlag: Berlin, Germany. p. 85-93. (Brassica/insect-pollinated/spatial confinement)
- Gauvin, M. L. , Lavigne, C. , and Gouyon, P. H. 1994. Transgenic swede rape and the environment. Studies in biosafety: the study of gene flow. *OCL - Oléagineux, Corps Gras, Lipides*. **1**(1): p. 45-49. (Brassica/pollen/hybridization/review/French/insect-pollinated)
- Hall, L., *et al.* 2000. Pollen flow between herbicide-resistant *Brassica napus* is the cause of multiple-resistant *B. napus* volunteers. *Weed Science*. **48**(6): p. 688-694. (weed/Brassica/hybridization/pollen/wild relatives/insect-pollinated)
- Ingram, J. 2000. The separation distances required to ensure cross-pollination is below specified limits in non-seed crops of sugar beet, maize and oilseed rape. *Plant Varieties and Seeds*. **13**(3): p. 181-199. (general/maize/Brassica/beet/review/spatial confinement/insect-pollinated/wind-pollinated)
- Klinger, T. , Elam, D. R. , and Ellstrand, N. C. 1991. Radish as a model system for the study of engineered gene escape rates via crop-weed mating. *Conservation Biology*. **5**(4): p. 531-535. (Brassica/weed/hybridization/insect-pollinated/wild relatives/spatial confinement)
- Lavigne, C. , *et al.* 1998. A pollen-dispersal experiment with transgenic oilseed rape. Estimation of the average pollen dispersal of an individual plant within a field. *Theoretical and Applied Genetics*. **96**(6/7): p. 886-896. (Brassica/pollen/modeling/insect-pollinated)
- Linder, C. R. and Schmitt, J. 1995. Potential persistence of escaped transgenes: performance of transgenic, oil-modified *Brassica* seeds and seedlings. *Ecological Applications*. **5**(4): p. 1056-1068. (Brassica/hybridization/seed/consequences/insect-pollinated)
- Manasse, R. S. 1992. Ecological risks of transgenic plants: effects of spatial dispersion on gene flow. *Ecological Applications*. **2**(4): p. 431-438. (Brassica/modeling/pollen/spatial confinement/insect-pollinated)
- Metz, P.L.J., *et al.* 1997. The impact on biosafety of the phosphinothricin-tolerance transgene in inter-specific *B. rapa* x *B. napus* hybrids and their successive backcrosses. *Theoretical and Applied Genetics*. **95**(3): p. 442-450. (Brassica/bioconfinement/hybridization/consequences/insect-pollinated)
- Rieger, M.A., *et al.* 2002. Pollen-mediated movement of herbicide resistance between commercial canola fields. *Science*. **296**: p. 2386-2388. (Brassica/pollen/hybridization/weed/insect-pollinated)
- Scheffler, J. A. , Parkinson, R. , and Dale, P. J. 1993. Frequency and distance of pollen dispersal from transgenic oilseed rape (*Brassica napus*). *Transgenic Research*. **2**(6): p. 356-364. (Brassica/pollen/spatial confinement/insect-pollinated)
- Scheffler, J. A., Parkinson, R. , and Dale, P. J. 1995. Evaluating the effectiveness of isolation distances for field plots of oilseed rape (*Brassica napus*) using a herbicide-resistance transgene as a selectable marker. *Plant Breeding*. **114**(4): p. 317-321. (Brassica/scale/spatial confinement/insect-pollinated)
- Scott, S. E. and Wilkinson, M. J. 1998. Transgene risk is low. *Nature (London)*. **393**(6683): p. 320. (Brassica/hybridization/spatial confinement/insect-pollinated)
- Thompson, C. E. , *et al.* 1999. Regional patterns of gene flow and its consequence for GM oilseed rape. in *Gene flow and agriculture, relevance for transgenic crops*: Keele, UK: British Crop Protection Council. (Brassica/insect-pollinated/hybridization/pollen/scale) <http://www.bcp.org/Events/geneflow.htm>
- Wilkinson, M.J., *et al.* 2000. A direct regional scale estimate of transgene movement from genetically modified oilseed rape to its wild progenitors. *Molecular Ecology*. **9**: p. 983-991. (Brassica/scale/hybridization/insect-pollinated)

Sunflower family

- Ellstrand, N. C., Torres, A. M., and Levin, D. A. 1978. Density and the rate of apparent outcrossing in *Helianthus annuus* (Asteraceae). *Systematic Botany*. **3**(4): p. 403-407. (sunflower/hybridization/wild relatives/insect-pollinated)
- Schmitt, J. 1980. Pollinator foraging behavior and gene dispersal in *Senecio* (Compositae). *Evolution*. **34**(5): p. 934-943. (insect-pollinated/pollen/modeling/ (Lepidoptera))

Other

- Conner, A. J. and Dale, P. J. 1996. Reconsideration of pollen dispersal data from field trials of transgenic potatoes. *Theoretical and Applied Genetics*. **92**(5): p. 505-508. (potato/pollen/spatial confinement/review/insect-pollinated)
- Hokanson, S.C., Hancock, J.F., and Grumet, R. 1997. Direct comparison of pollen-mediated movement of native and engineered genes. *Euphytica*. **96**(3): p. 397-403. (Cucumis/insect-pollinated/variability)
- McCauley, D. E. 1997. The relative contributions of seed and pollen movement to the local genetic structure of *Silene alba*. *Journal of Heredity*. **88**(4): p. 257-263. (insect-pollinated/seed/pollen/scale)
- McPartlan, H. C. and Dale, P. J. 1994. An assessment of gene transfer by pollen from field-grown transgenic potatoes to non-transgenic potatoes and related species. *Transgenic Research*. **3**(4): p. 216-225. (potato/hybridization/spatial confinement/insect-pollinated)

Seed Biology and Dispersal

Brassicacae

- Adler, L. S. , *et al.* 1993. Potential for persistence of genes escaped from canola: germination cues in crop, wild, and crop-wild hybrid *Brassica rapa*. *Functional Ecology*. **7**(6): p. 736-745. (Brassica/consequences/seed/variability/wild relatives/insect-pollinated)
- Linder, C. R. and Schmitt, J. 1995. Potential persistence of escaped transgenes: performance of transgenic, oil-modified *Brassica* seeds and seedlings. *Ecological Applications*. **5**(4): p. 1056-1068. (Brassica/hybridization/seed/consequences/insect-pollinated)

Sunflower

- Narayanaswamy, S. 1998. Seed recovery during processing of some field crops. *Seed Research*. **26**(2): p. 201-203. (general/seed/rice/sunflower/insect-pollinated)

Other

- McCauley, D. E. 1997. The relative contributions of seed and pollen movement to the local genetic structure of *Silene alba*. *Journal of Heredity*. **88**(4): p. 257-263. (insect-pollinated/seed/pollen/scale)

Physical Confinement of Pollen, Seed, and Volunteers

Cotton

- Umbeck, P. F., *et al.* 1991. Degree of pollen dispersal by insects from a field test of genetically engineered cotton. *Journal of Economic Entomology*. **84**(6): p. 1943-1950. (cotton/insect-pollinated/spatial confinement/physical confinement/monitoring (border rows))

Brassicacae

- Cremer, J., Rasche, E., and Donn, G. 1995. Volunteer management of glufosinate resistant transgenic crops (maize, soybean, oil seed rape, sugar beets). in *Proceedings of a workshop on: Key biosafety aspects of genetically modified organisms, April 10-11*. Braunschweig, Germany. <http://www.bba.de/gentech/workshop.htm> (physical confinement/seed/maize/Brassica/beet/insect-pollinated)
- Morris, W. F., Kareiva, P. M. , and Raymer, P. L. 1994. Do barren zones and pollen traps reduce gene escape from transgenic crops? *Ecological Applications*. **4**(1): p. 157-165. (Brassica/spatial confinement/insect-pollinated/physical confinement)

Other

- Hokanson, S.C., *et al.* 1997. Effect of border rows and trap/donor ratios on pollen-mediated gene movement. *Ecological Applications*. **7**(3): p. 1075-1081. (insect-pollinated/Cucumis/hybridization/scale/variability/physical confinement)

Bioconfinement

Tobacco

- Al-Ahmad, H. , Galili, S., and Gressel, J. 2004. Tandem constructs to mitigate transgene persistence: tobacco as a model. *Molecular Ecology*. **13**(3): p. 697-710. (bioconfinement/tobacco/insect-pollinated)
- Araya, A., *et al.* 1998. RNA editing in plant mitochondria, cytoplasmic male sterility and plant breeding. *Electronic Journal of Biotechnology*. **1**(1): p. 31-39. (bioconfinement/tobacco/insect-pollinated)

- Chin, H. G. , *et al.* 2003. Protein trans-splicing in transgenic plant chloroplast: reconstruction of herbicide resistance from split genes. *PNAS*. **100**(8): p. 4510-4515. (bioconfinement/tobacco/insect-pollinated)
- Daniell, H. , *et al.* 1998. Containment of herbicide resistance through genetic engineering of the chloroplast genome. *Nature Biotechnology*. **16**(4): p. 345-348. (tobacco/bioconfinement/insect-pollinated)
- Goetz, M. , *et al.* 2001. Induction of male sterility in plants by metabolic engineering of the carbohydrate supply. *PNAS*. **98**(11): p. 6522-6527. (tobacco/bioconfinement/pollen/insect-pollinated)
- Goldman, M. H. S. , Goldberg, R. B. , and Mariani, C. 1994. Female sterile tobacco plants are produced by stigma-specific cell ablation. *EMBO Journal*. **13**(13): p. 2976-2984. (tobacco/bioconfinement/seed/insect-pollinated)
- Huang, C.Y., Timmis, J.N., and Ayliffe, M.A. 2003. Direct measurement of the transfer rate of chloroplast DNA into the nucleus. *Nature*. **422**(6927): p. 72-76. (tobacco/bioconfinement/general/insect-pollinated)
- Huang, C.Y., *et al.* 2004. Simple nuclear loci created by newly transferred chloroplast DNA in tobacco. *PNAS*. **101**(26): p. 9710-9715. (tobacco/bioconfinement/general/insect-pollinated)
- Kuvshinov, V. , *et al.* 2001. Molecular control of transgene escape from genetically modified plants. *Plant Science*. **160**(3): p. 517-522. (tobacco/bioconfinement/seed//insect-pollinated)
- Kuvshinov, V. , Anissimov, A. , and Yahya, B. M. 2004. Barnase gene inserted in the intron of GUS - a model for controlling transgene flow in host plants. *Plant Science*. **167**(1): p. 173-182. (bioconfinement/seed/insect-pollinated)
- Martin, W. 2003. Gene transfer from organelles to the nucleus: Frequent and in big chunks. *PNAS*. **100**(15): p. 8612-8614. (tobacco/bioconfinement/review/insect-pollinated)
- Matsuda, N., *et al.* 1996. Partial male sterility in transgenic tobacco carrying antisense and sense *PAL* cDNA under the control of a tapetum-specific promoter. *Plant and Cell Physiology*. **37**(2): p. 215-222. (bioconfinement/tobacco/pollen/insect-pollinated)
- Scherthamer, J. P., *et al.* 2003. Control of seed germination in transgenic plants based on the segregation of a two-component genetic system. *PNAS*. **100**(11): p. 6855-6859. (tobacco/seed/bioconfinement/insect-pollinated)
- Stegemann, S. , *et al.* 2003. High-frequency gene transfer from the chloroplast genome to the nucleus. *PNAS*. **100**(15): p. 8828-8833. (bioconfinement/tobacco/pollen/insect-pollinated)
- Tsuchiya, T. , *et al.* 1995. Tapetum-specific expression of the gene for an endo-B-1,3-glucanase causes male sterility in transgenic tobacco. *Plant and Cell Physiology*. **36**(3): p. 487-494. (tobacco/rice/bioconfinement/pollen/insect-pollinated)
- Zuo, J. , Niu, Q. , and Chua, N. 2000. An estrogen receptor-based transactivator XVE mediates highly inducible gene expression in transgenic plants. *Plant Journal*. **24**(2): p. 265-273. (bioconfinement/tobacco/Brassica/insect-pollinated)

Brassicac

- Denis, M., *et al.* 1993. Expression of engineered nuclear male sterility in *Brassica napus*: Genetics, morphology, cytology, and sensitivity to temperature. *Plant Physiology*. **101**(4): p. 1295-1304. (Brassica/bioconfinement/pollen/insect-pollinated)
- Jagannath, A., *et al.* 2002. Development of transgenic barstar lines and identification of a male sterile (barnase)/restorer (barstar) combination for heterosis breeding in Indian oilseed mustard (*Brassica juncea*). *Current Science*. **82**(1): p. 46-52. (bioconfinement/pollen/Brassica/insect-pollinated)
- Luo, H., *et al.* 2000. FLP-mediated recombination for use in hybrid plant production. *Plant Journal*. **23**(3): p. 423-430. (bioconfinement/pollen/Brassica/insect-pollinated)
- Mariani, C. , *et al.* 1990. Induction of male sterility in plants by a chimaeric ribonuclease gene. *Nature (London)*. **347**(6295): p. 737-741. (Brassica/bioconfinement/pollen/insect-pollinated)
- Mariani, C. , *et al.* 1992. A chimaeric ribonuclease-inhibitor gene restores fertility to male sterile plants. *Nature (London)*. **357**(6377): p. 384-387. (Brassica/bioconfinement/pollen/insect-pollinated)
- Metz, P.L.J., *et al.* 1997. The impact on biosafety of the phosphinothricin-tolerance transgene in inter-specific *B. rapa* x *B. napus* hybrids and their successive backcrosses. *Theoretical and Applied Genetics*. **95**(3): p. 442-450. (Brassica/bioconfinement/hybridization/consequences/insect-pollinated)
- Parkin, I.A., *et al.* 1995. Identification of the A and C genomes of amphidiploid *Brassica napus* (oilseed rape). *Genome*. **38**(6): p. 1122-1131. (Brassica/bioconfinement/insect-pollinated)
- Scott, S. E. and Wilkinson, M. J. 1999. Low probability of chloroplast movement from oilseed rape (*Brassica napus*) into wild *Brassica rapa*. *Nature Biotechnology*. **17**(4): p. 390-393. (Brassica/bioconfinement/pollen/wild relatives/hybridization/insect-pollinated)
- Zuo, J. , *et al.* 2001. Chemical-regulated, site-specific DNA excision in transgenic plants. *Nature Biotechnology*. **19**(2): p. 157-161. (bioconfinement/Brassica/insect-pollinated)

Other

- Daniell, H. , Khan, M. S. , and Allison, L. 2002. Milestones in chloroplast genetic engineering: an environmentally friendly era in biotechnology. *Trends in Plant Science*. **7**(2): p. 84-91. (tomato/bioconfinement/insect-pollinated)

Modeling

Brassicas

- Cresswell, J. E. , *et al.* 1995. Predicted pollen dispersal by honey-bees and three species of bumble-bees foraging on oil-seed rape: a comparison of three models. *Functional Ecology*. **9**(6): p. 829-841. (modeling/Brassica/insect-pollinated)
- Cresswell, J. E. , Osborne, J. L. , and Bell, S. A. 2002. A model of pollinator-mediated gene flow between plant populations with numerical solutions for bumblebees pollinating oilseed rape. *Oikos*. **98**(3): p. 375-384. (modeling/insect-pollinated/Brassica)
- Cresswell, J. E. 2003. Towards the theory of pollinator-mediated gene flow. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*. **358**(1434): p. 1005-1008. (modeling/insect-pollinated)
- Manasse, R. S. 1992. Ecological risks of transgenic plants: effects of spatial dispersion on gene flow. *Ecological Applications*. **2**(4): p. 431-438. (Brassica/modeling/pollen/spatial confinement/insect-pollinated)
- Squire, G. R. , *et al.* 1999. Gene flow at the landscape level. in *Gene flow and agriculture: relevance for transgenic crops*. Keele, UK: British Crop Protection Council. <http://www.bcpc.org/Events/geneflow.htm> (modeling/Brassica/insect-pollinated/scale/wind-pollinated)
- Wilkinson, M.J., *et al.* 2000. A direct regional scale estimate of transgene movement from genetically modified oilseed rape to its wild progenitors. *Molecular Ecology Notes*. **9**: p. 983-991. (Brassica/scale/hybridization/insect-pollinated)

Detection and Monitoring

Brassicas

- Halfhill, M.D., *et al.* 2001. Expression of GFP and Bt transgenes in Brassica napus and hybridization with Brassica rapa. *Theoretical and Applied Genetics*. **103**: p. 659-667. (general/monitoring/Brassica/insect-pollinated)