

## Jerry Miller

Geneticist and Breeder for ARS, USDA, Fargo, USA from 1980 (about) until 2006.

Jerry Miller is recognized worldwide for his germplasm releases and genetic investigations of sunflower. During his career, he has released 225 germplasm lines and genetic stocks, authored over 216 scientific publications, and received numerous invitations to speak at professional meetings and on behalf of public interests of the US sunflower industry. Dr Miller's international stature is evidenced by his election to the Presidency of ISA and by his mentorship of scientists and students from 17 countries who have worked under his direction.

Dr. Miller is a Fellow of both the American Society of Agronomy and the Crop Science Society of America.

In 20013 he received the USDA Agricultural Research Service Award for Superior Technology Transfer Achievement for his development of mid-oleic sunflower for the U.S. sunflower industry.

In 2007 the U.S. National Council of commercial Plant Breeders recognized Dr. Miller with its Genetics and Plant Breeding Award.

Dr. Miller's numerous achievements have made significant impact on the sunflower industry world-wide.

Dr. Miller was the first to elucidate the inheritance of oleic acid in sunflower, and made the genetic combinations to create NuSun (mid-oleic) cultivars that now account for more than 90% of U.S. sunflower production.

Dr. Miller is the autor of a very large number of international publications.

He was a member of the ISA board for many years and was chairman of the board for the 2004 Conference at Fargo, which was a great success.

## CURRICULUM VITAE

### JERRY F. MILLER

*Research Geneticist (retired)  
Sunflower Research Unit, Red River Valley Agricultural Research Center  
USDA-Agricultural Research Service  
PO Box 5677, Fargo, ND 58105*

### EDUCATION

- 1969 B.S. (Crop Science) University of Nebraska, Lincoln, NE
- 1970 M.S. (Plant Genetics) University of Nebraska, Lincoln, NE
- 1975 Ph.D. (Plant Genetics, major; Plant Pathology, minor) North Dakota St. Univ., Fargo, ND

### PROFESSIONAL AND ACADEMIC APPOINTMENTS

- 1969-1970 Research Assistant, Department of Agronomy, Univ. of Nebraska, Lincoln, NE
- 1970-1972 Hard Winter Wheat Breeder, Funks Seeds Intl., Bloomington, IL
- 1972-1975 Instructor and Res. Assoc., Dept. of Agronomy, North Dakota St. U., Fargo, ND
- 1975-1976 Postdoctorate, Durum Wheat Project, North Dakota State Univ., Fargo, ND
- 1976-2007 Research Geneticist, Sunflower Research Unit, USDA-ARS, Fargo, ND

### AWARDS/RECOGNITION

- Fellow, American Society of Agronomy, 1995.
- Fellow, Crop Science Society of America, 1996.
- Outstanding Scientist Award, Red River Valley Agricultural Research Center, 1997.
- ARS Technology Transfer Award, 2004
- U.S. National Council of Commercial Plant Breeders – Breeding and Genetics Award, 2006.

### PROFESSIONAL MEMBERSHIPS

- American Society of Agronomy
- Crop Science Society of America
- International Sunflower Association
- American Genetics Association

### SELECTED PROFESSIONAL ADVISORY/CONSULTANT ACTIVITIES

- Served as President of the International Sunflower Association, 2000-2004.
- Served on the Executive Board of the International Sunflower Association, 1988-1999.
- Served as Chair, C-1 Division, Crop Breeding, Genetics, & Cytology, Crop Sci. Soc. of Am., 2000.
- Adjunct Professor, Department of Plant Science, North Dakota State University.
- Served on examining committees for 9 Ph.D. and 37 M.S. students.
- Approximately 22 visiting scientists from various countries studied with Dr. Miller over his career.
- Member of the NuSun Committee of the National Sunflower Association.
- Member of the Research Committee of the National Sunflower Association.

## SIGNIFICANT RESEARCH OUTCOMES

1. Released over 150 germplasm lines and genetic stocks to all researchers of sunflower in the world. These have provided disease resistance to downy mildew, Sclerotinia stalk and head rot, rust, Verticillium, and Phomopsis, resistance to salt and tolerance to drought, short height and lodging resistance, high oleic fatty acid, low saturated fatty acid, imidazolinone herbicide resistance, tribenuron herbicide resistance, early flowering and maturity, high yield, high oil, and genetic diversity.
2. Determined the inheritance of high oleic acid content in sunflower oil and produced the first NuSun hybrid of sunflower. NuSun sunflower now occupies approximately 95% of the oilseed production acreage in the U.S. and its oil is sought by the largest frying industries such as Frito-Lay and Proctor and Gamble.
3. Determined the inheritance of resistance and developed six interspecific lines by crossing wild sunflower with cultivated sunflower that are resistant to present races of downy mildew and the new race of downy mildew resistant to the fungicide, Apron. These lines are being utilized in the U.S. and throughout the world to create hybrids with downy mildew resistance.
4. Developed the first imidazolinone-herbicide resistant sunflower populations and lines from interspecific crosses of sunflower. The hybrids produced from these lines and application of the herbicide allows the control of broad-leaf weeds in sunflower, invaluable to the sunflower industry.