The first Illinois Corn Breeders School was held in 1964. Thus, this year is the 50th school. This presentation reviews the history of the school, changes in corn breeding, and changes in corn yields over the same period of time. This presentation updates a presentation made by Dr. R. J. Lambert at the 40th School. The school was founded by Dr. D.E. Alexander and Marvin Vinyard. Dr. Alexander was a faculty member in the Agronomy Department at the time while Mr. Vinyard was a corn breeder with a degree from the U. of I. Their rationale for the school was based on the fact that most breeders had either a B.S. or M.S. and needed to “return to school” to be updated. They also needed a place to ask questions and to exchange ideas with other breeders. Many changes have occurred. Corn breeding has evolved from hand planting and harvest to use of highly sophisticated GPS guided planting and harvest equipment along with high speed computing. The definition of a corn breeder has changed from an individual who did most of the work and made the decisions to a highly integrated team including line developers, testing specialists, transgene developers, IT specialists, and a legal department. However, the School’s guiding principles of providing practical information, the latest research which may be applied to corn breeding, and opportunities to ask questions and discuss problems with other corn breeders have not changed.
ILLINOIS CORN BREEDERS SCHOOL

50 YEARS AND COUNTING
ROAD MAP

• CORN BREEDING

• YIELD

• CORN BREEDERS SCHOOL
CORN BREEDING 1965

• MECHANICAL PLANTING NEW

• MECHANICAL HARVEST NEW

• BEGINNING OF USE OF COMPUTERS (PUNCH CARDS)

• MINIMAL USE OF WINTER NURSERIES
Hand planting
HUSKING PEG
MECHANICAL CALCULATOR

Effortless figuring

With a Monroe 4N-213 you get all the advantages of a fully automatic adding-calculator. Drudgery disappears from routine figuring work and even the most complex calculations become merely a matter of feeding figures and pushing easy-to-use keys. Exclusive Monroe Magic features mean that there is less to remember, less to do, less possibility of human error. Here is a machine that cuts costs and saves time in every department where figuring work occurs.

Monroe Calculators range from simple hand-operated models to the world's most advanced machines. With Monroe you can bank on the know-how in designing and using your machine and the most efficient and reliable after-sales service.
CORN YIELDS (BU/A) 1965

- ILLINOIS: 94.0
- U.S.: 73.8
CORN BREEDERS 1965

• MOST WITH B.S. OR M.S.

• GENERALISTS

• DETERMINED CROSSES TO BE MADE

• DID SELFING, SELECTION, TESTING
CORN BREEDERS SCHOOL

• FOUNDERS

• OBJECTIVES
FOUNDERS

• D. E. ALEXANDER

• MARVIN VINYARD
IDENTIFIED NEEDS

“RETURN TO SCHOOL”

ASK QUESTIONS

EXCHANGE IDEAS WITH OTHER BREEDERS
OBJECTIVES

- PRACTICAL BREEDING INFORMATION
- UPDATE ON BASIC RESEARCH WHICH MIGHT BE APPLIED TO BREEDING
- INTERACTION AMONG BREEDERS
CORN BREEDERS SCHOOL (1965)

- ONE DAY IN TURNER HALL
- 51 BREEDERS ATTENDED
- 6 SPEAKERS
- ATTENDEES ALL MALE
- RESTRICTED TO ILLINOIS CORN BREEDERS
SMOKE FILLED ROOM FOR MEETING
CHANGES SINCE 1965

• CORN BREEDING

• CORN YIELDS

• CORN BREEDERS SCHOOL
CHANGES IN CORN BREEDING

• GPS GUIDED PLANTERS
• TWIN PLOT COMBINES
• HIGH SPEED, HIGH CAPACITY COMPUTING
• MOLECULAR MARKERS
• GENOMICS
• TRANSGENIC TRAITS
• DEFINITION OF CORN BREEDER
TWIN PLOT COMBINE
DEFINITION OF CORN BREEDER

• 1965—CLEAR CUT, ONE PERSON—IDENTIFIED CROSSES TO MAKE, MADE CROSSES, SELFED, EVALUATED LINES

• NOW—TEAM INCLUDING LINE DEVELOPER, TESTER, TRANSGENE DEVELOPERS, IT DEPARTMENT, CONVERSION SPECIALISTS, LEGAL DEPARTMENT
CHANGES SINCE 1965

• CORN BREEDING

• CORN YIELDS

• CORN BREEDERS SCHOOL
# CORN YIELDS

<table>
<thead>
<tr>
<th></th>
<th>1(^{st}) 10 YEARS</th>
<th>LAST 10 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>81.3</td>
<td>151.0</td>
</tr>
<tr>
<td>ILLINOIS</td>
<td>94.7</td>
<td>159.6</td>
</tr>
</tbody>
</table>
CHANGES SINCE 1965

• CORN BREEDING

• CORN YIELDS

• CORN BREEDERS SCHOOL
CORN BREEDERS SCHOOL

- LOCATION
- ATTENDEES
- TOPICS
- EVENING PROGRAM
CORN BREEDERS SCHOOL LOCATION

- 1965  TURNER HALL
- 1966-1983  ALLERTON PARK
- 1984(20th)-1997  CHANCELLOR HOTEL
- 1998-2007  HOLIDAY INN
- 2008-2009  HILTON GARDEN INN
- 2010-NOW  I-HOTEL
ATTENDEES

• ORIGINALLY LIMITED TO ILLINOIS

• 1984 OPENED TO ALL CORN BREEDERS

• ~2005 EMPHASIS ON LAB PEOPLE
FIRST PRESENTATIONS

• BIOTECHNOLOGY—REGENERATION OF CALLUS
  – GREEN (1979)

• APPLICATION OF MARKERS TO PLANT BREEDING

• USE OF MARKERS IN BREEDING
FIRST WORDS IN TITLES

• PATENT 1982
• MOLECULAR 1983
• DROUGHT 1989
• Bt 1994
• GENOMICS 2000
• SEQUENCING 2007
• PHENOTYPING 2011
EVENING PROGRAMS

DIFFICULT TO IDENTIFY TOPICS & SPEAKERS

• REQUESTED BY INDUSTRY ADVISORY COMMITTEE
• 1965 AND 1984—NO PROGRAM
• ASSORTED TOPICS
• CHANCELLOR 1994—BLESSING & CURSE
SUMMARY-CHANGES

• CORN BREEDING

• CORN YIELDS

• CORN BREEDERS SCHOOL CONTENT
SUMMARY-CONSTANT

• OBJECTIVES OF CORN BREEDERS SCHOOL

  – PRACTICAL BREEDING INFORMATION

  – UPDATE ON BASIC RESEARCH WHICH MIGHT BE APPLIED TO BREEDING

  – INTERACTION AMONG BREEDERS
ORGANIZERS

- T.R. ROCHEFORD
- D.G. WHITE
- S. MOOSE
- G.R. JOHNSON *
- R.H. MUMMM
- M. BOHN
FUTURE

• DEPENDS
  – DEMAND
  – REWARD TO FACULTY