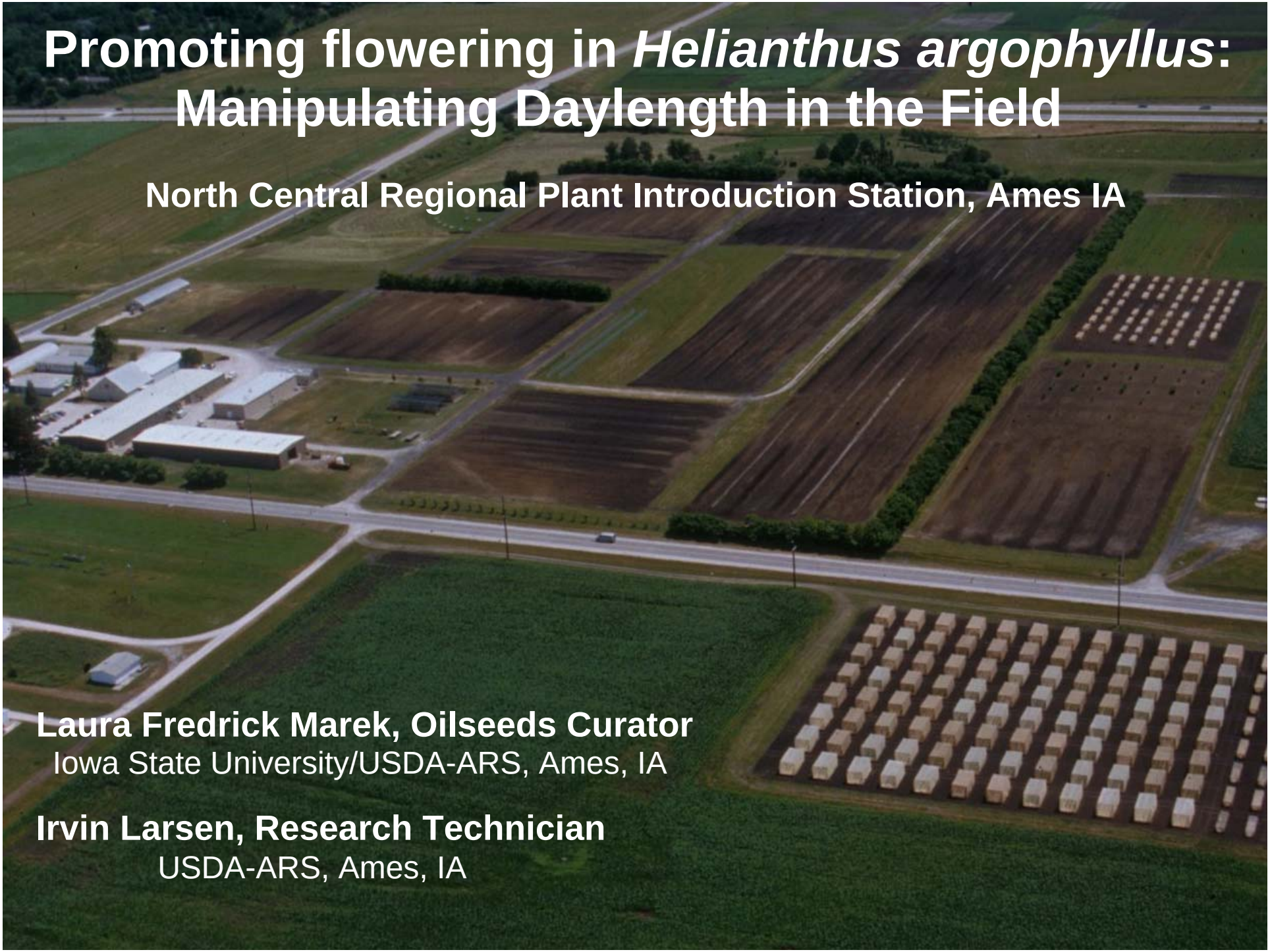
Promoting flowering in *Helianthus argophyllus*: Manipulating Daylength in the Field

North Central Regional Plant Introduction Station, Ames IA



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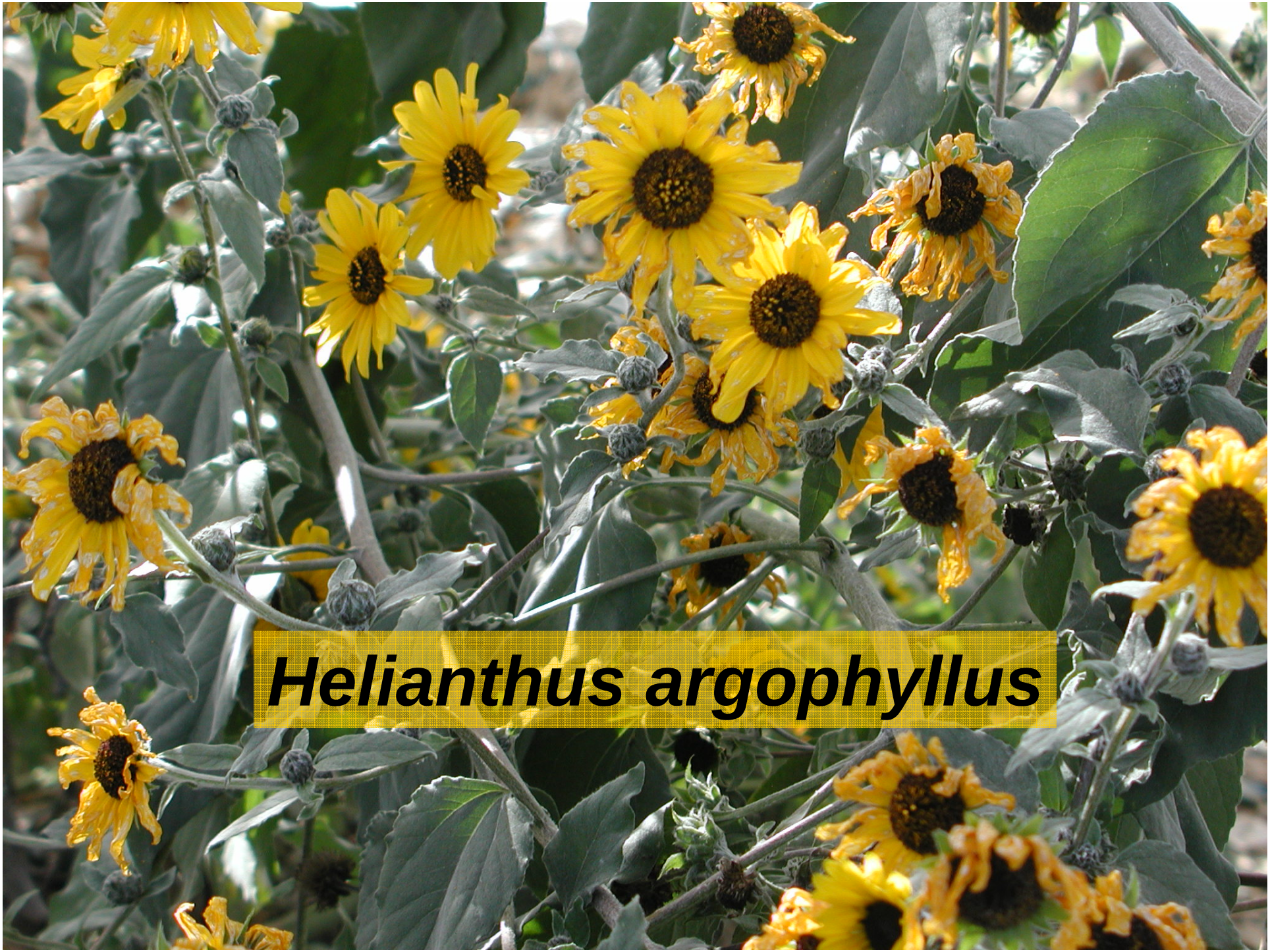
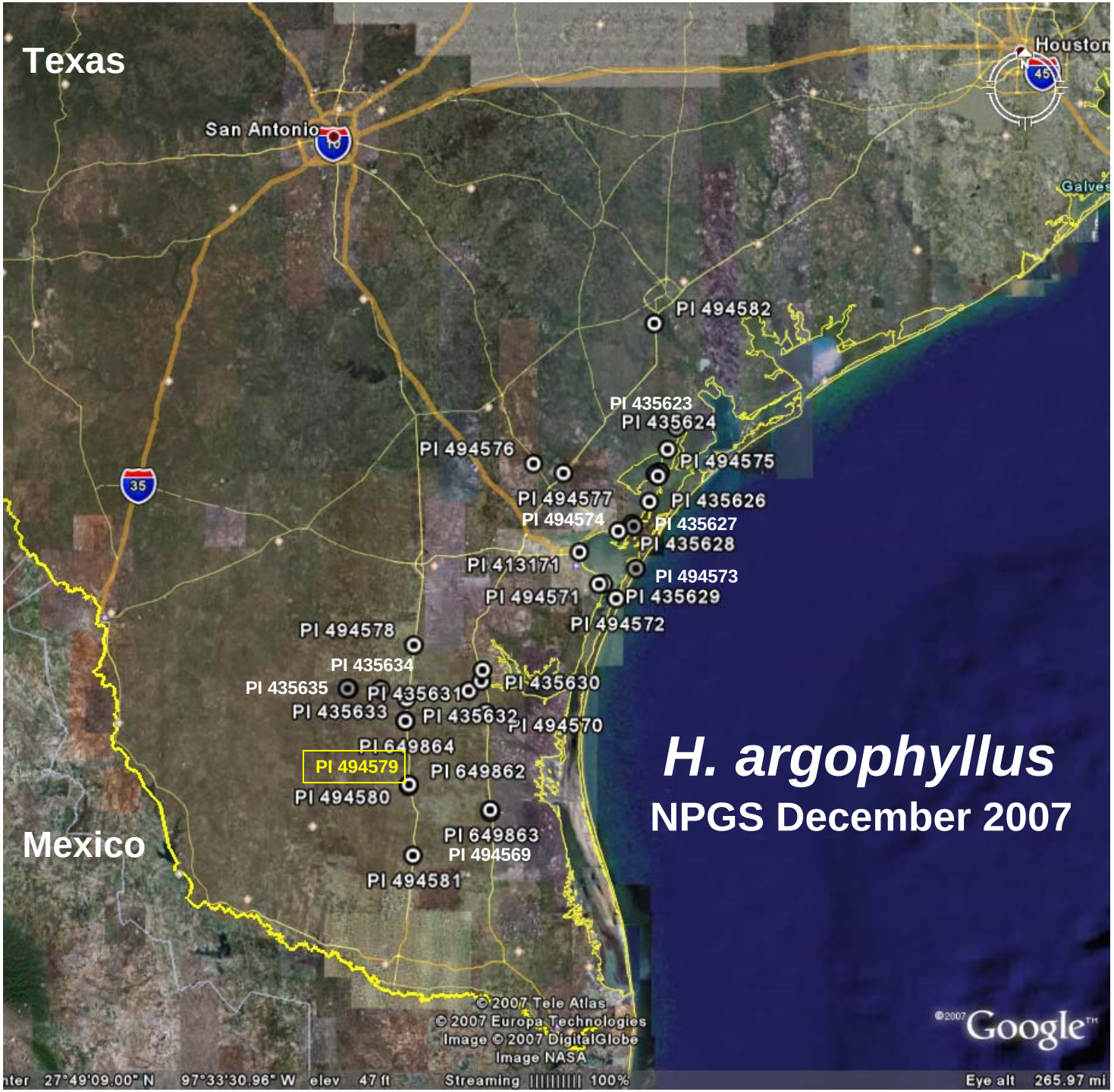

Helianthus argophyllus

H. argophyllus accessions in the NPGS collection

41 accessions

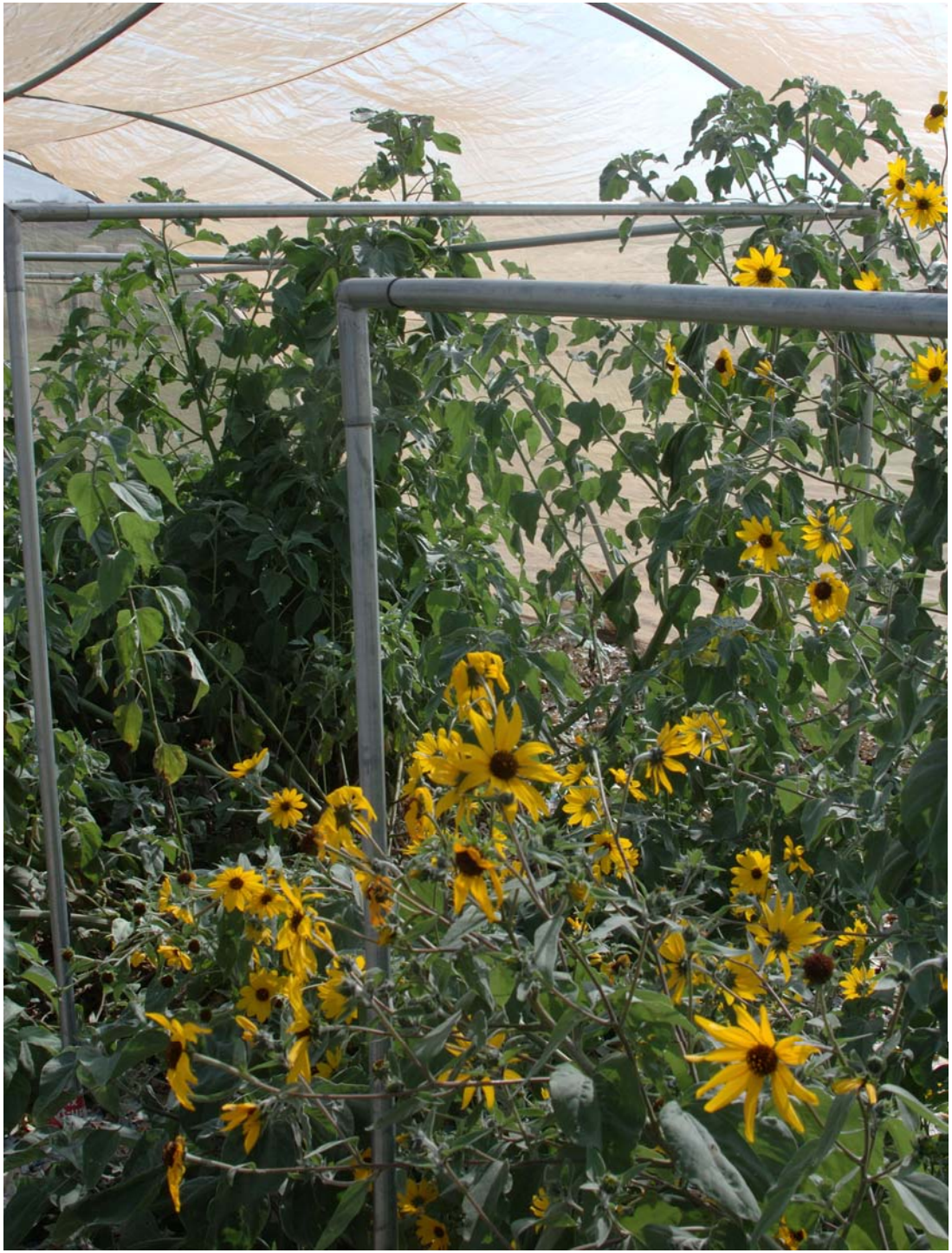
29 available

12 will increased in 2008



On map:

Texas accessions currently available or available by end of 2008 except for one accession from Daytona Beach, FL; two accessions from Europe without origin information and three accessions from Australia (to be increased in 2008).



Experiment inspired by:

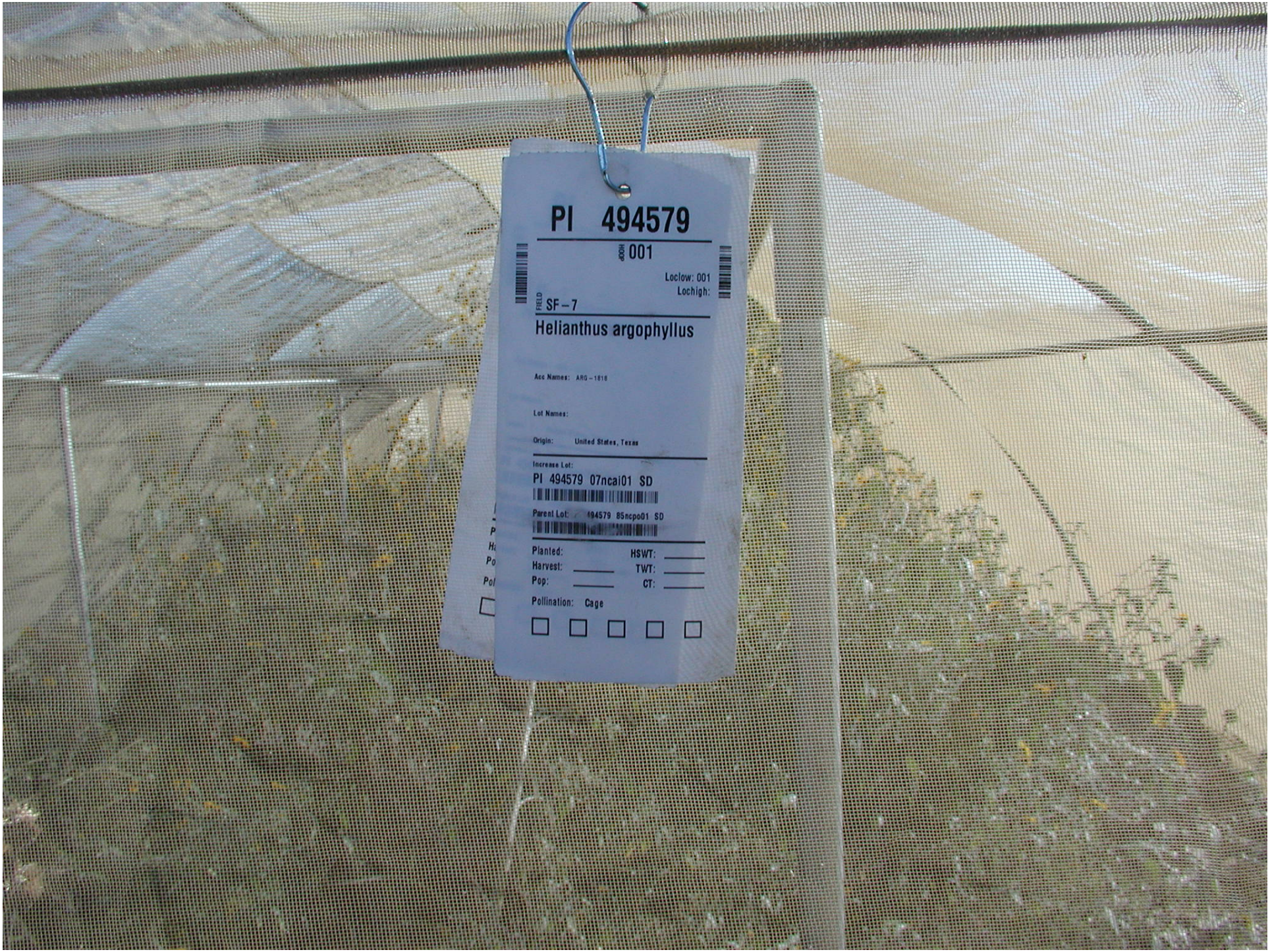
2006 *H. argophyllus* increases killed by frost eight days after first flowering

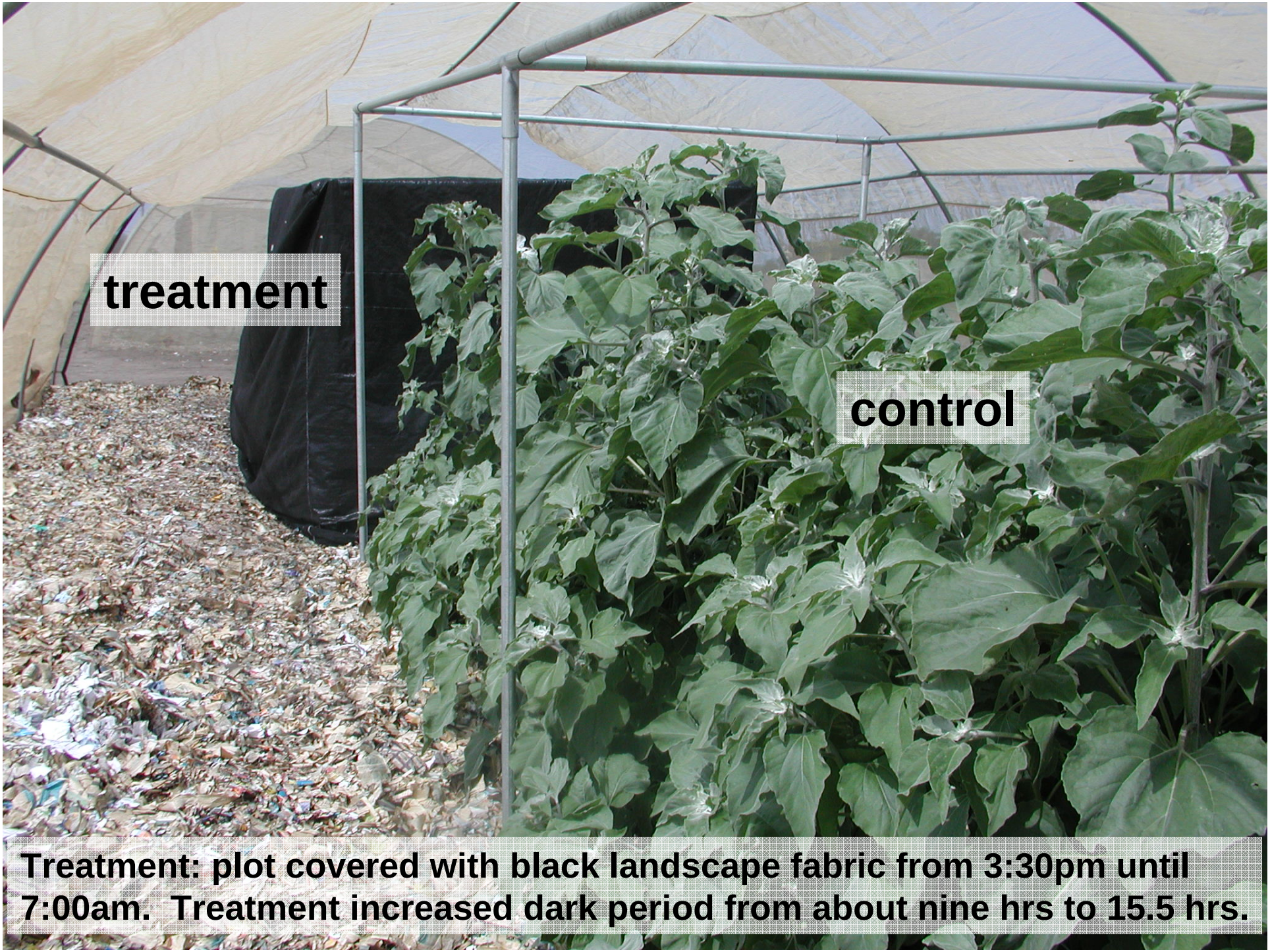
promotion of earlier flowering in tropical maize accessions by covering plants with landscape fabric “tents” to increase the daily dark period

donation of ten 20x50 ft hoop houses and screens

2007 sunflower hoops: view from the south

2007 sunflower controlled day length experiment
Hoophouse 1


PI 494579
001
Loclow: 001
Lochigh:
FIELD
SF-7
Helianthus argophyllus
Acc Names: ARG-1818
Lot Names:
Origin: United States, Texas
Increase Lot:
PI 494579 07ncai01 SD
Parent Lot: 494579 85ncpo01 SD
Planted:
Harvest:
Pop:
HSWT:
TWT:
CT:
Pollination: Cage



Treatment: plot covered with black landscape fabric from 3:30pm until 7:00am. Treatment increased dark period from about nine hrs to 15.5 hrs.

2007 sunflower controlled day length experiment

	covered plot	control plot
# of plants	32	32
transplant to field	6/14	6/14
treatment* start	7/16	na
treatment end	8/15	na
first flower	8/15	9/26
mid flower	8/25	na
first harvest date	10/3	na

*Treatment: plot covered with black landscape fabric from 3:30pm until 7:00am. Treatment increased dark period from just over nine hours to 15.5 hours.

August 25, 2007: Treated plants flowering in profusion

August 25, 2007, one week after treatment ended

2007 sunflower controlled day length experiment

	covered plot	control plot
# of plants	32	32
transplant to field	6/14	6/14
treatment* start	7/16	na
treatment end	8/15	na
first flower	8/15	9/26
mid flower	8/25	na
first harvest date	10/3	na
seed harvested	**56,000**	**na**


with special thanks to the 2007 summer sunflower student crew
Rachel Kutzler
Christa Schroeder
Andrew Heiligenthal
Bill Lindsey
Lexi Colvin
Allyse Hellmich
and to the GEM group for inspiration