

2010

Horticulture Research Station Summary

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Horticulture Research Station Summary

Abstract

Includes Farm and Weather Summary

Keywords

RFR A9009

Disciplines

Agricultural Science | Agriculture

Horticulture Research Station Summary

RFR-A9009

Farm Staff

Superintendent Nick Howell
 Ag Specialist/Viticulture..... Dennis Portz
 Operations Manager..... Jim Kubik
 Field Lab Technician Lynn Schroeder
 Turfgrass Research Associate Chris Blume

Research Farms Coordinator..... Mark Honeyman
 Farms Manager Dennis Shannon
 32 Curtiss Hall, ISU

Horticulture Research Station
 55519 170th Street
 Ames, IA 50010
 515-232-4786 office and Fax
 nhowell@iastate.edu

Location: Three miles north of Ames on Highway 69, turn east on 170th Street
 about 1½ miles.

Farm and Weather Summary

Nick Howell, farm superintendent

Farm Comments

Staffing and internships. Permanent staffing remained intact in 2009. This includes Jim Kubik, operations manager; Dennis Portz, small fruit research specialist; Lynn Schroeder, field lab tech; and Chris Blume, turf grass research associate.

The Hort Station had five internships in 2009. Chrystal Seeley studied the affects of light penetration on grape quality. Brandon Carpenter examined the affects of crop loads on table grape quality. Samantha Wagner looked at a fruit quality comparison of high tunnel and field grown brambles. Karrie Verba and Andrew Koppes worked on the beginning stages of a GIS mapping and record keeping system.

Developments. Work was completed on the main machine shed in preparation for the station's first All Horticulture Field Day. Unused equipment and supplies were sold or eliminated, and the loading dock was cleared, repaired, and steps were built. In addition, the doors were repaired and painted.

Landscape cleanup and renovation projects were completed. Farm staff and interns continued cleaning and pruning the wind breaks and tree collections around the lake. An additional 500 Norway spruce trees were planted in a nursery to be used in future years to replace the dying windbreaks surrounding the station. Currently 1,000 spruce trees are in the nursery for windbreak replacement.

Field days, tours and class activities. The station hosted 6 field days, 8 tours, 10 meetings, and 13 student classes. A total of 1,338 people attended events at the station in

2009. The All Horticulture Field Day was held August 6. The Department of Horticulture and the Horticulture Research Station invited the horticulture industry to tour research projects at the station. This event is planned to be held annually. It hosted 237 visitors. The Horticulture Club's fall festival was also a success. Despite cool and wet conditions, 26 student volunteers and 187 visitors were present at the station for this second annual event.

Weather Comments

Winter 2008–2009. Low temperatures were well below normal in January resulting in major damage on some grape cultivars in the vineyard. Bud damage occurring this month also created a number of deformed apples in the Chieftain and Golden Delicious apple orchards.

Spring 2009. Temperatures remained below normal throughout the period allowing perennial crops to come out of dormancy slowly. There was no early spring bud damage on apples or grapes. Precipitation rates were above normal delaying spring planting of vegetable and bulk crops.

Summer 2009. Precipitation was slightly above normal in June and below normal in July and August. Because of cooler day-time temperatures during this period, an increase in disease and insect pests were found on perennial crops.

Fall 2009. Precipitation in October was 5.3 in. above normal and temperatures were below normal. There was a delay in the bulk corn harvest. Also, an early October frost damaged late season grapes waiting to be harvested.

Acknowledgements

Thanks to the Leopold Center for their continued financial support of the High Tunnel project. I also would like to thank the farm crew Jim Kubik, Lynn Schroeder, Dennis Portz, and Chris Blume for their efforts. Thanks to the student interns Chrystal Seeley, Brandon Carpenter, Samantha Wagner, Kerrie Verba, and Andrew Koppes

and all of the other student workers for all of their hard work. Thanks for the assistance with the irrigation system maintenance provided by John Newton, superintendent, Veenker Memorial Golf Course. I would also like to thank Lisa Harmison, Meg Speer, and the Story Co. Master Gardeners for their assistance with the All Horticulture Field Day and Home Demonstration Garden Field Day.

Table 1. Horticulture Research Station, Ames, IA, monthly rainfall and temperatures for 2009.

Month	Rainfall (in.)		High 2009	Temperature (°F)		Days 90° or above	
	2009	Deviation from normal		Deviation from normal	Low 2009		Deviation from normal
March	4.07	2.17	47.6	.44	27.29	.09	0
April	3.9	.28	58.18	-4.05	37.11	-1.49	0
May	5.26	.71	70.29	-2.71	48.66	-1.44	0
June	4.44	1.2	79.19	-2.21	59.78	.18	0
July	2.52	-1.44	78.37	-6.06	58.64	-5.06	2
August	4.26	-.44	77.45	-4.78	59.2	-2.1	0
September	1.27	-1.94	75.22	-1.61	53.01	.31	1
October	<u>7.73</u>	<u>5.3</u>	52.83	-10.83	36.91	-3.79	<u>0</u>
Totals	33.45	5.84					3

Research Station Projects

<u>Research Project</u>	<u>Project Leader</u>
Mosquito-borne encephalitis surveillance	L. Bartholomay
NCR green height variety/dollar spot trial	N. Christians/C. Blume
NCR fwy height variety/dollar spot trial	N. Christians/C. Blume
Perennial Ryegrass NTEP	N. Christians/C. Blume
Kentucky Bluegrass NTEP	N. Christians/C. Blume
Dupont broadleaf study	N. Christians/C. Blume
Mesotrione phytotoxicity study - perennial rye	N. Christians/C. Blume
Mesotrione phytotoxicity study - tall fescue	N. Christians/C. Blume
L.I.S.T. study	N. Christians/C. Blume
Green height fertilizer trial	N. Christians/C. Blume
BASF crabgrass study	N. Christians/C. Blume
Native short-grass prairie seedings (different timings)	N. Christians/C. Blume
Shade trial - species/cultivars	N. Christians/C. Blume
Corn gluten meal studies (1991, 1995, 1999)	N. Christians/S. Brockhoff/C. Blume
Ajinomoto fertilizer trial	N. Christians/S. Brockhoff/C. Blume
Divot plug study	N. Christians/M. Jones/C. Blume
Bentgrass spaced-plant study	N. Christians/M. Jones/C. Blume
Invasiveness study	N. Christians/M. Jones/C. Blume
Interseeding trial	N. Christians/M. Jones/C. Blume
Wine making study	M. Dharmadhikari/S. Donner
Nut breeding project	P. Domoto
Leopold grape management trial	P. Domoto
Wine grape trial	P. Domoto
NC140 apple rootstock trial	P. Domoto
NE1020 wine grape trial	P. Domoto
Grape hardiness study	P. Domoto/L. Goldsmith
Tall fescue NTEP	S. Fei/C. Blume
Buffalograss spaced plant trial	S. Fei/C. Blume
Dollar spot trial - green height	M. Gleason
Dollar spot trial - fwy height	M. Gleason
Summer patch trial	M. Gleason
Brown patch trial	M. Gleason
Disease-resistant apple field trial	M. Gleason
Sooty blotch/flyspeck pruning and spray-volume trial	M. Gleason
Chieftan pruning trial	M. Gleason
Bacterial wilt/row covers on muskmelons (delayed planting)	M. Gleason
Bacterial wilt/row covers on muskmelon	M. Gleason
National elm tree trial	M. Gleason
Bacterial wilt attraction study	M. Gleason
Populus cultivar bio mass study	R. Hall
Home demonstration garden	C. Haynes
Traffic/overseeding trial	M. Hoiberg/D. Minner

Research Project (continued)

Earthworm control study
 Fertilizer study (green)
 Calcium nutrient study
 Earth Kind rose trial
 Flowering crab trial
 Shade tree trial
 Common garden painted turtle nesting experiment
 The adaptive significance of temperature-dependent
 sex determination in the painted turtle
 Yield impact of Fusarium root rot on soybeans
 High tunnel, oregano project
 Tunnel to table brambles
 Tunnel to table vegetable crops
 Small fruit teaching planting
 Raspberry cover crop study
 Student orchard
 Day neutral strawberry trial
 Apple imprinting
 Effects of crop load on fruit quality of Mars table grape
 Effects of leaf removal on grapevine growth and fruit
 quality of Maréchal Foch
 Grape crop load study
 Herbicide reduction study in grapes
 Practices to extend the availability of fresh Iowa-grown
 raspberries and blackberries
 Soybean aphids and nematodes on soybeans
 Time of harvest and wine quality of Esprit wine grapes
 Viburnum study
 High tunnel – vegetables
 Evaluation of summer squash
 Mini tunnel crop production
 Evaluation of tomato varieties
 Evaluation of pepper varieties
 Mini tunnel crop production
 Turtle reproduction study
 Tree swallow nesting
 Prairie cover crops
 Maintaining species evenness to maintain species
 richness
 Regulating invisibility through species aggregation
 in grasslands
 The influence of seed placement on diversity and
 ecosystem function

Project Leader

M. Hoiberg/D. Minner
 M. Hoiberg/D. Minner
 M. Hoiberg/D. Minner
 N. Howell
 J. Iles
 J. Iles
 F. Janzen

 F. Janzen
 G. Munkvold
 L. Naeve
 L. Naeve/H. Taber
 L. Naeve/H. Taber
 G. Nonnecke
 G. Nonnecke
 G. Nonnecke
 G. Nonnecke/D. Portz
 G. Nonnecke/D. Portz/B. Carpenter
 G. Nonnecke/D. Portz/B. Carpenter

 G. Nonnecke/D. Portz/C. Seeley
 G. Nonnecke/R. Voss
 G. Nonnecke/L. Wasko

 G. Nonnecke/D. Portz/S. Wagner
 M. O'Neal
 D. Portz/S. Donnor/B. Carpenter
 L. Stephens
 H. Taber
 H. Taber
 H. Taber
 H. Taber
 H. Taber
 H. Taber
 H. Taber
 M. Valenzuela
 C. Vleck
 B. Wilsey

 B. Wilsey/F. Isbell

 B. Wilsey/K. Yurkonis

 B. Wilsey/K. Yurkonis