

Vegetable Crop Production

TPSS 401

Spring 2010

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Lectures: Wed. & Fri. 12:30-1:20 St. John Rm. 010A
Lab: Mon. 1:30-4:20 St. John Rm. 010A; Magoon Greenhouse facility

Course Goal: To develop in students an understanding of the biological, social and economic principles underlying successful vegetable production.

Required Text: Knott's Handbook for Vegetable Growers. D.N. Maynard and G.J. Hochmuth. 5th edition. Hamilton Library Reference Call # [SB321.M392 2007](#)

Additional Reading: World Vegetables: Principles, Production and Nutritive Values. V.E. Rubatzky and M. Yamaguchi. Hamilton Library Reference Call # [SB320.9.R83 1997](#)

Tentative Lecture Schedule:

January	13	Vegetable definition and classification
	15	Library skills
	20	Origin, domestication and improvement of vegetables
	22	Importance of vegetables to the human diet
	27	Environmental factors influencing vegetable growth
	29	Environmental factors influencing vegetable growth
February	3	Sustainability in agriculture
	5	Nutrient management
	10	Pest management
	12	Marketing and post-harvest handling
	17	EXAM I
	19	Potato
	24	Sweet potato
	26	Taro and other aroids
	March	3
5		Sweet corn
10		Tomato and pepper
12		Eggplant and other <i>Solanum</i> fruit
17		EXAM II; Draft literature review due (optional)
19		Holiday
24		Spring Break
26		Spring Break

	31	Lettuce and other <i>Asteraceae</i>
April	2	Good Friday
	7	Onions and other <i>Allium</i>
	9	<i>Cucurbitaceae</i>
	14	<i>Brassicaceae</i>
	21	<i>Brassicaceae</i>
	23	Carrot and other <i>Apiaceae</i>
	28	Spinach, beets and other <i>Chenopodaceae</i>
	30	Other vegetables
May	5	Final review, Literature review due

Final Exam:

The final exam will be held Friday, May 14, 2010, 12:00-2:00 St. John 010A. **The final exam will be cumulative:** it will focus on the material presented in lectures subsequent to exam II and include additional material from previous lectures and labs.

Literature review:

Each student will be responsible writing a ~10 page review of the current scientific literature on a topic of the student's choosing, subject to the instructor's approval. More than just a summary, the review should attempt to contribute to the field of vegetable production by presenting a novel synthesis of the literature pertaining to the topic of interest that will not be presented in class. The review should consist of:

Introduction (15 points)- Clearly introduces the subject, its importance and what the author (you) plans to assert.

Background (15 points)- Presents a comprehensive but concise summary of the information available in the literature.

Synthesis (25 points)- Critically discusses the literature, builds to support your assertion while honestly addressing its weaknesses and identifies gaps in the literature that need to be addressed by future research.

Conclusion (5 points)- Clearly states what you conclude and the implications of your conclusion.

References (10 points)- Consistently follows an accepted journal format (e.g. HortTechnology) and contains all the references cited in the paper and only those. It is not a bibliography. They should be accurate and allow others to locate the reference. **At least 5 of the references should be peer reviewed journal articles.**

Significant deviation from the above format should be pre-approved by the instructor.

Students will present brief (5 min) oral presentations of their literature reviews on the last day of lab. Use of PowerPoint is strongly suggested.

Tentative Lab Schedule:

January	11	Houskeeping
	18	Dr. Martin Luther King Day
	25	Seeding transplants
February	1	Irrigation installation and fertilizer application
	8	Field trip
	15	Presidents Day
	22	Experimental design; Field trial planting
March	1	Pesticide safety
	8	Field Trip
	15	Field Trip
	22	Spring Break
	29	Field Trip
April	5	Student Plots
	12	Field Trip
	19	Field Trip
	26	Experimental plot data collection, Data analysis
May	3	Oral presentations of literature review, lab notebooks due

Field trip reports and laboratory notebooks:

Students are responsible for maintaining detailed, organized records of all activities associated with the laboratory, including field trips. Details should include date, times, cultivar and scientific names of plants observed, locations, presenters, methodologies employed, practices observed and personal insights. Notebooks should contain a table of contents and the pages should be numbered. Field trip reports should be 1-2 pages plus pictures, detailing the site visit. **Field trip reports are due the lab period following each field trip.** Field trip reports should also be included in your final notebook along with data and summary of individual projects in student beds.

Grading System:

Description	Points Available
Exam I:	70 points
Exam II:	70 points
Final Exam:	100 points
Literature review:	105 points
Lab notebook:	50 points
Field trip reports:	60 points
Presentation:	20 points
Total	475 points
Point Range	Grade
426-475	A
380 - 426	B
331 - 379	C
285 - 330	D
< 285	F