Department of Horticulture

College of Agricultural Engineering Sciences

University of Salahaddin

Subject: Winter Vegetable Production /practical part

Course Book – 3rd Year students

Lecturer's name: Dleen Monawar Saeed, Bayan Rokan Aziz,

BSc, MSc. BSc, MSc.

Shayma Faithfull Mohammed

BSc, MSc.

Academic Year: 2023/2024 (First Semester)

Course Book

1. Course name	Winter Vegetable Production /Practical part
2. Lecturers in charge	Dleen Monawar Saeed Bayan Rokan Aziz
3. Department/ College	Horticulture / Agricultural Engineering Sciences
4. Contact	e-mail: dleen.saeed@su.edu.krd e-mail: bayan.aziz@su.edu.krd e-mail: shayma.mohammed@su.edu.krd
5. Time (in hours) per week	Practice: 6 hours
6. Office hours	Monday (8.30- 4:00) and Wednesday (8:30- 2:30)
7. Course code	
8. Teacher's academic profile	For Further Information, please visit the link below: dleen.saeed@su.edu.krd & bayan.aziz@su.edu.krd
9. Keywords	Winter Vegetable Production, introduction of vegetables, Planting of vegetables, Vegetable disease and insects, climatic and environmental requirements, fertilization, irrigation, harvesting.

10-Course overview:

Vegetables are herbaceous plants that have been part of the human diet from time immemorial. Some are staple foods but most are accessory food stuffs adding variety to meals with their unique flavors and at the same time, adding nutrients necessary for health. Some vegetables are perennials but most are annuals and biennials .Vegetables need attention especially during the cultivation, production, handling, storage, and growing areas.

This course book complies many fundamental issues of vegetable production such as site selection, preparation of land, propagation methods, using of modern techniques and equipment in planting, fertilization, harvesting, storage, marketing, diseases and pest management, that all help the students to get the acquired knowledge about the vegetable production.

11. Course objective:

- To prepare students to successfully grow vegetables commercially.
- To get the important information about vegetables varieties and how we can improve and increase the quantity and quality of them.
- To be able to distinguish vegetable crops morphologically and it is benefits for human health

- To get knowledge about environmental and cultural production requirements of vegetables

12. Student's obligation:

Students must take into consideration the presence of them in the class and pay attention to the lecturer and writing notes, and committed to the date and time of exams when it has been fixed and the lecture papers should be with them in the class before the beginning of lectures and the mobiles should be closed.

13. Forms of teaching;

- Lectures (presentation), classroom teaching (class discussion), integrating technology (Google class room and electronic mail).
- Visits to vegetable production sites in Erbil to learn from growers.

14.Assessment scheme:

-Grades of practical part are distributed as following:

- Two seasonal exams 25 mark
- Quizzes, reports and student activity 10 mark

15. Student learning outcome:

With successful completion of this course, the student will obtain the following learning outcomes:
1-Demonstrate proficiency in the cultural and management considerations of successful
2-sustainable vegetable crop production.
3-Be familiar with the physiological aspects of vegetable crops growth and development.
4-Be familiar with vegetable crops environmental modification and plastic culture systems.
5-Be familiar with successful vegetable crops harvest and marketing.

16. Course Reading List and References

-Abdel Moneim, A. Technology for Producing Vegetables Fundamentals of Horticulture, 4th editions

-Delate, K. *et al*. 2008. Evaluation of Soil Amendments in Organically Managed Peppers and Tomatoes – Armstrong Trial, 2008. Iowa State University. Vol. 13.

- Matloub, A. W., E. S. Mohammed and K. S. Abdul (1989). Vegetable crop production. 1st part 2nd edition. Ministry of higher Education and Scientific Research. Mosul University – Iraq. p.399. (In Arabic).

- **Politud, E.R.R.** (2016). Growth and Yield Performance of Radish (*Raphanus sativus* L.) 'CV' 'SNOW WHITE' in Response to Varying Levels of Vermicast Applications. International Journal of Scientific and Research Publications, Volume 6, Issue 5.

- **Salunkhe**, D.K., B.B. Desai, and N.R. Bhatt (1987). Vegetable and flower seed production. Agricore Publishing Academy. New Delhi, India. 144– 150. pp.
- **Zohary,** D. and M. Hopf. 2000. Domestication of plants in the old world, (3rd Ed.) Oxford: University Press, pp. 139 .

- **Zohary, D.; Hopf, M. and Weiss, E.,** (2012). Domestication of plants in the Old World: the origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin (4th ed.). Oxford: University Press, p. 139.

- **Some internet webs which are related with the subjects**

- **Practical Topics** **1st week:** Vegetable crops definition, Classification of vegetable crops, Principles of vegetable crop production and Problems of vegetable crop production. **2nd week:** Vegetable nursery establishment techniques. Factors Determining Nursery location, Nursery Tools and their uses. Planting of winter vegetable crops. **3rd week: Morphology of some cold season vegetable crops:** **Brassicaceae (cruciferae family)** **1-Cabbage** The main points: - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests **4th week:** **2- Cauliflower** The main points: - - Botanical description - Varieties - Reproductive methods	Dleen Monawar Saeed and Bayan Rokan Aziz (6hrs) 11/9/ 2023 (6hrs) 18/9/2023 (6hrs) 25/9/2023 (6hrs) 2/10/2023

- Planting methods - Management of diseases and insect pests	
5th week: 1st– Examination	9/10/2023
6th week: Fabaceae (Leguminosae)Family **1- <u>Broad bean</u>** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests	(6hrs) 16/10/2023
7th week: **2-<u>Pea</u>** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests	(6hrs) 23/10/2023
8th week: <u>Liliaceae (Alliaceae)</u> (Onion family) **1- <u>Onion</u>** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests	(6hrs) 30/10/2023
9th week: - **<u>2- Garlic</u>** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods	(6hrs) 6/11/2023

- Management of diseases and insect pests **10th week: 2nd exam** **11th week: Asteraceae (Composite) family** **Lettuce** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests **12th week: - Apiaceae (Umbeliferae) family** **Carrot** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests 13th week: **Family: Chenopodiaceae** **Beet:** The main points: - - Botanical description - Varieties - Reproductive methods - Planting methods - Management of diseases and insect pests	13/11/2023 (6hrs) 20/11/2023 (6hrs) 27/11/2023 4/12/2023

19. Examinations:

Quality of the exam questions:

Q1/ Define the following

Q2 / Numerate the following

Q3 / What are the differences between the following

Q4 / what are the reasons of the following

Q5 / complete the following blanks

Q6/Explain or talk about the following

Q7/ List or Describe two ways of

Q8/Write the scientific, family name and the quantity of yield for the following vegetables.

Q9/ What are the advantages and disadvantages of -------

Q10/ Mention the followings

Salahaddin University-Erbil **winter Vegetable production –**

College of Agriculture Engineering sciences **3rd stage/Horticulture**

Monthly Exam

Q1/Complete the following blanks:

1- Problems of vegetable production may be 1---------- 2----------.3----------.

2- Transplanting process is harmful because they---------- and -------- the plant.

3- The plants that belonged to fabaceae family are characterized by---------.

4- The vegetables of leguminous family are an important source of ---------- in human diet.

5- Cauliflower grow best in soils with the pH about ----------.

Q2/Define the following terms:

1- Seed dormancy 2 - Transplanting 3- Blanching

Q3/Write the scientific name, family name and the quantity of yield for the following vegetables:

1- Lettuce 2- Garlic 3- Carrot 4-Pea 5- Cauliflower

Q4/ Numerate the following:

1- Conditions success vegetable cultivation in certain region

1- Advantages of transplanting

3- Varieties of carrot

Q5/ Explain the management of disease and insect pests in Cabbage.

Dleen M. Saeed

Assist. Lecturer