

PROGRAMA DE PÓS-GRADUAÇÃO EM AGRONOMIA

Disciplina: PEANUT PRODUCTION AND MANAGEMENT FOR HIGH YIELD		Nº Créditos: 02 (Crédito = 15 h)	Semestre: 2º
Período Letivo:	N.º de aulas semanais: Carga Horária: 30 horas	Teóricas:	Práticas:
Professor(es) (as): Dr. Fábio Rafael Echer e Dra. Cristiane Pilon - Tifton-GA-USA			

I – OBJECTIVES

Provide the students with knowledge on peanut crop production and management for high yields, constantly encouraging creative thinking and emphasizing the importance and applicability of research.

II – COURSE DESCRIPTION

The peanut crop will be discussed in this course, approaching topics such as plant developmental stages and climatic requirements, physiology, genetic and cultivars, nutrient management, and insect and disease control. The course will also include a visit on a peanut field and plant sampling for growth analysis as part of the evaluation.

III - SYLLABUS

Topics to be discussed on the **Peanut crop**:

1. Origin and domestication of *Arachis* spp., economics and main producing and consuming states and countries, overview of world peanut market.
2. Stages of plant development (germination, emergence, vegetative growth, reproductive growth, and pod maturation); morphological and anatomical differentiation (botanical classification, morphological and anatomical description - seeds, roots, stems, leaves, flowers, and pods); physiology of development (photosynthetic process – photosynthesis, respiration, transpiration, and source-sink relations).
3. Physiology and climatic requirements (temperature, water), tolerance to drought, growing degree days, stresses and productivity impairment, and growth regulators.
4. Preparing for the season: seed treatment and overall seed quality, planting date, soil temperature, single vs. twin rows and water requirements.

5. Germplasm resources in *Arachis*, methodologies for germplasm enhancement and breeding, and commercially available cultivars.
6. Crop rotation, soil preparation, and cultural practices.
7. Soil fertility and plant nutrition, nitrogen fixation, and gypsum application at pegging.
8. Insect and disease control: identification and description of main insects and diseases, and methods for controlling.
9. Weed control: identification of main weed species in the peanut crop and herbicide application strategies.
10. Assessment of pod maturity and physiology of maturing pods, digging and harvesting time, handling, shelling, and storage.
11. Flavor quality and main uses for peanuts.

IV – TEACHING METHODOLOGY

Audio-visual resources will be used for the theoretical classes. At least one practical class will be provided at the experimental site with the University. In addition, plant samples will be collected in the field, taken to a laboratory for processing and further calculation of growth analysis indices as a link between theory and practice

V – ASSESSMENT OF ACQUIRED KNOWLEDGE

Assessment will be performed by a written exam at the end of the course.

VI – REFERENCE LIST

6.1 Book reference

PATTEE, H.E.; STALKER, H.T. *Advances in Peanut Science*. American Peanut Research and Education Society, Inc. Stillwater, OK, USA. 1995. 614 p.

TASSO JUNIOR, L.C.; MARQUES, M.O.; NOGUEIRA, G.A. *A Cultura do Amendoim*. UNESP. Jaboticabal, SP. 2004. 220 p.

NAKAGAWA, J.; ROSOLEM, C.A. *O Amendoim: Tecnologia de Produção*. FEPAF. Botucatu, SP. 2011. 325 p.

6.2 Relevant Scientific Journals

Agronomy Journal

Bragantia

Crop Science

Environmental and Experimental Botany

Journal of Agronomy and Crop Science

Peanut Science

Pesquisa Agropecuária Brasileira

Scientia Agricola

6.3 Relevant websites in agriculture

www.scielo.br

www.agricultura.br

www.conab.br

www.embrapa.br

www.apresinc.com

www.gapeanuts.com

www.nationalpeanutboard.org

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