PSS 221 TREE FRUIT CULTURE

TREE FRUIT CULTURE CLASS PROJECT

You are asked to select a plot of land 10 to 50 acres in size with the intent of growing tree fruits either with an organic management or with an integrated systems management. You may select any site as long as you can get a soil map of the site. You are asked to develop a plan to plant the land. A complete business plan must be developed for at least 7 years. All major decisions must be explained and well documented.

The Plan

The bank wants you to develop a complete month-by-month schedule for the development, planting and maintenance of the orchard from January 1, 2003 until after harvest in autumn 2007. You must have a detailed plan describing the orchard you will develop and how you intend to market the fruit. Likewise you must describe buildings, equipment and supplies you will need and the expected expenses.

The purpose of the plan is to demonstrate to the bank (and the instructor) that you understand the horticultural science necessary to be a successful fruit producer. Thus, the focus of the project should be on the management decisions you must make, what factors you must consider and, most importantly, WHY you have made specific management decisions. You must rely on data from the printed literature to justify your decisions.

Your portfolio and plans should include:

I. A complete description of the site: description of location, site, slope, soil type, and the important climate meteorological information. Is the site a good site and a wise investment? Why or why not? What crops is the site best suited for? Why and/or why not.

II. The orchard layout and block plan. Include a map showing roadways, buildings, irrigation system, detail of tree planting scheme, tree spacing, density, layout, trellis, pollinators, etc. Why are rows oriented specific directions? Why did you select an irrigation system? What factors influenced the layout of the orchard?

III. Species, cultivars, rootstocks, number of trees to be ordered, sources of stock, prices, shipping, etc. Present information on expected tree growth (time to fill the space), approximate mature tree size, bloom time, pollinators, time of harvest, productive potential, etc. Why have you made these decisions? Make sure to discuss what nursery you selected to purchase stock.

IV. Site preparation and maintenance requirements: soil fumigation, herbicides, support systems, ground cover, rotation, etc. Describe sod management program, herbicides, fertility monitoring, and fertilizer application.
V. Irrigation system to be used. Discuss source of water, water treatment and amount of application. Why was a specific irrigation system selected? What are the advantages and disadvantages of this system? Does the system have multiple use or benefits?

VI. Select three major diseases and three major arthropod pests you will try to control. Describe your control methods. How will you deal with weed and vertebrate pests.

VII. Fruiting. Approximate the yield for years 1-5. Discuss fruit thinning practices you will use, anticipated problems, and other economic considerations in the cropping the orchard during these years.

VIII. The economic schedule of expenses and cash flow for years 1-5. Project cash flow, annual expenditures, labor requirements, etc. Include how much money will you need from the bank each year to keep the farm working and possible debt reduction. You may start with a cash balance of $150,000.00. Use graphs or charts to help explain your debt and revenues. The bank loan is for a period of 10 years at 10% annual interest.

Grading

The project will be reviewed by one of your peers and the instructor. It will be graded on your integration of information about the horticultural production of tree fruit crops into your management scheme. The focus is pomology; how you use science to accomplish your objectives. The graders will be evaluating your plan to accomplish your management objectives and why you have made specific management decisions.

Be sure to thoroughly discuss each of the topics listed above. Use diagrams, tables, charts, etc., if they are useful to understanding the discussion and they are mentioned within the text. Your logical thought pattern should be evident in the discussion.

The project will be grade on the following elements: site evaluation (10%); orchard layout and design (10%); horticultural management decisions and annual management (40%); estimates and economics (10%); neatness (10%); grammar and mechanics (10%); overall presentation and approval (10%). The final product must be typed-written.

YOUR HORTICULTURAL DECISIONS ARE THE MOST IMPORTANT CONSIDERATION FOR EVALUATIONS.

DUE DATE: See List of activities table

(Original project requirements borrowed from Dr. D. W. Greene, UMass and C. R. Rom, University of Arkansas. Minor modifications added).