STANDARD TASK ANALYSIS FORM

6/2/2011

	Duty/Task:																	
	G-4 Plant seeds in growing media		**NOTE: This task applies to growing plants in a hydroponic environment**															
	STEPS (Required to Perform the Task)		**PERFORMANCE STANDARDS (Observable & Measurable Criteria)**		**TOOLS, EQUIPMENT, SUPPLIES & MATERIALS (Needed)**		**REQUIRED KNOWLEDGE AND SKILLS (Math, Science, & Language)**		**SAFETY (Concerns)**		**WORKER BEHAVIORS (Important to Worker Success)**		**DECISIONS (Identify Decisions that Must be Made by the Worker)**		**CUES (Identify the Data Needed for Making Correct Decisions)**		**ERRORS (Indicate What May Result if Incorrect Decisions are Made)**
1	Obtain growing media, hydroponic containers, fertilizer, minerals and seeds	1	Obtained correct growing media, hydroponic containers, fertilizer, minerals and seeds for your operation	1	Growing media, hydroponic containers, seeds, fertilizer and minerals	1	Knowledge of hydroponics, knowledge of proper containers, knowledge of seed varieties	1	N/A	1	Accurate, timely, conscientious	1	What type of growing media (rock wool, pea gravel, oasis cubes) do I use for this crop? What type of containers do I use for this crop? What seed variety will I grow? Where do I get my supplies? How much do I buy? What is an acceptable price?	1	Properties of the growing media, supplier offerings, size of the growing operation, type of seed being planted, environmental conditions, consumer demand, past purchasing practices, what is available, comparative purchasing	1	Won't be able to grow the crop we want, variety may not be adaptable to our environment, media may not provide the root support for growing plants
2	Plant the seeds in the growing media (e.g. rock wool, pea gravel, oasis cubes)	4	Planted the seeds in the appropriate direction depending on varietal requirement	4	Hand seeder (manual or vibrating)	4	Knowledge of direction to plant seeds based on variety	4	Use gloves to protect hands	4	Detail oriented, efficient	4	What direction do I plant the seeds? How many seeds do I add per area?	4	Variety being planted, size of the seed, purpose of the crop (e.g. baby greens or mature greens)	4	Seeds may rot from lack of air or improper photo period
3	Prepare a water and mineral mix solution	3	Prepared a growing solution that would support plant germination and growth	3	Mixing tank, water, minerals, mixing ratio, air diffuser	3	Knowledge of hydroponics, knowledge of proper mixing ratios of water and minerals	3	Wear PPE when mixing	3	Accurate, conscientious	3	What should my ratio of water to minerals be? How do I determine what the proper ratio should be? How do I mix it?	3	Manufacturer's recommendations, experience, varieties being grown	3	Won't be able to support plant growth and produce a marketable crop
4	Circulate the water and mineral mix solution through the growing media	4	Circulated a water and mineral mix of the correct temperature through the growing media	4	Pumps, storage tanks, distribution lines, air diffuser, water heater	4	Knowledge of hydroponic mixtures, knowledge of pumps and pumping systems	4	Wear PPE when working with circulation system	4	Problem solver, accurate, analytical	4	How do I circulate the mixture through the media? How often should it be circulated? What temperature should the mix be to be effective?	4	Manufacturer's recommendations, experience, varieties being grown	4	Mixture that's too cold or improperly mixed will not support adequate plant growth
5	Maintain the growing solution by maintaining the proper temperature and concentration of fertilizer and minerals	5	Maintained the proper temperature and concentration of fertilizer and minerals for the growing solution	5	Fertilizer/mineral concentrate, water heater, mixing tank, water, minerals, mixing ratio, air diffuser, thermometer	5	Knowledge of hydroponic growing solutions, fertilizer and mineral requirements for various crops	5	Wear PPE when working with circulation system	5	Problem solver, accurate, analytical	5	What temperature should I maintain the mixture at? What should the concentration be? How do I know when to add more concentrate or water?	5	Manufacturer's recommendations, experience, thermometer readings, tissue test results	5	Wont' get maximum production yields if mixture is incorrect
	Analyst: John Moser						Specific Relevant References:											
	Expert Workers:					1	Owner's manual for hydroponics system											
	Al Welch					2	Extension publications-Mississippi State											
	Milan Pajev					3	Dealer marketing materials											