

STANDARD TASK ANALYSIS FORM

6/2/2011

| Duty/Task: F-4 Clean aquaponic media | | | | | | | | |
|---|---|--|---|-------------------------------|--|--|---|---|
| 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 Remove all plants from growing media | 1 Removed all plant matter from growing media. | 1 Gloves, wheelbarrow, trowel | 1 Basic math and science skills, plant pathology knowledge, knowledge of water management principles, food safety knowledge | 1 General safety awareness | 1 Organized, hard working, detail-oriented, accurate, self-motivated, team-builder, critical thinker, analytical | 1 Does the media need cleaning? Has the media been used before? What kind of media is it? Is the media new? Does the media need to be graded as well? | 1 Media discolored, plant has reached maturity, produce has been harvested | 1 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 2 Grade the media to remove any foreign matter | 2 Graded the media thoroughly to remove all foreign matter | 2 Grading screen, gloves, muck bucket | 2 Basic math and science skills, plant pathology knowledge, knowledge of water management principles, food safety knowledge | 2 General safety awareness | 2 Organized, hard working, detail-oriented, accurate, self-motivated, team-builder, critical thinker, analytical | 2 What foreign material is in the media? Is there sufficient amounts that the media needs to be graded? What is the best way to remove it? | 2 Media discolored, plant has reached maturity, produce has been harvested | 2 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 3 Assess the media to be cleaned | 3 Assessed the various kinds of media that needed cleaning | 3 Visual observation, trowel, scrub brush, Internet, computer | 3 Knowledge of aquaponic media, knowledge of acceptable cleaning methods | 3 N/A | 3 Discerning, analytical | 3 What plant species am I growing? What aquaculture system will service plant media? What is most cost efficient for the selected practice? | 3 Past experience, Internet research, cleaning schedule | 3 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 4 Create a cleaning plan (e.g., scheduled maintenance cleanings) for the media | 4 Created a workable cleaning plan that would keep the media clean and free of algae, mold and bacteria | 4 Computer, Internet, recommended media cleaning procedures | 4 Knowledge of aquaponic media, knowledge of acceptable cleaning methods, computer skills | 4 N/A | 4 Thorough, detail-oriented, accurate, conscientious | 4 What media needs to be cleaned? Is the media new or used? What was previously grown in the media? What kind of solution and temperature of water is needed to clean the media? | 4 Recommended frequency for cleaning, supplier's recommendations for cleaning media | 4 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 5 Prepare the cleaning solution to be used based on type of media and potential bacteria, disease, pests it may support | 5 Prepared the correct amount and type(s) of cleaning solution to be used based on type of media and potential bacteria, disease, and pests | 5 Vinegar/water solution, bleach/water solution, Lime Away, water, safety glasses, gloves, face mask | 5 Basic math skills, knowledge of cleaning materials and how they interact | 5 Use PPE to avoid eye injury | 5 Cautious, accurate, conscientious | 5 What would be the best cleaning solution to use for this media? What temperature of water is needed to clean the media (e.g., cleaning algae compared to hard water deposits)? What ratios should I use to mix the water and cleaning agent? | 5 Past experience, supplier's recommendations for cleaning media | 5 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 6 Clean the media | 6 Cleaned the media thoroughly as recommended by the supplier | 6 Power washer, scrub brush, water, cleaning solution, safety glasses, gloves, face mask | 6 Knowledge of power washer and scrub brush use | 6 Use PPE to avoid eye injury | 6 Cautious, accurate, conscientious | 6 What is the best method to clean the media? Can I use a power washer, or do I need to also use a scrub brush? How clean does the media need to be? | 6 Past experience, amount of cleaning needed, available equipment | 6 Media that is not clean may result in: poor plant stands, poor growing conditions, bad odors, bacteria, mold, mildew, uncontrolled algae growth, undesired growth in media, poor water circulation, poor oxygen levels, discoloration of plants |
| 7 Document the cleaning | 7 Documented the cleaning to include date, media cleaned, type of solution and equipment used | 7 Notebook, computer | 7 Documentation skills, computer skills | 7 N/A | 7 Detail-oriented, accurate | 7 Have I recorded all the information needed to adequately document the cleaning? | 7 Experience, previous documentation | 7 Won't have good records to base future cleaning on |
| Analyst: Susan Pavilkey | | | Specific Relevant References: | | | | | |
| Expert Workers: | | | | | | | | |
| Christie Welch | | | | | | | | |
| Valerie Kinsman | | | | | | | | |
| Rev. Donovan Larkins | | | | | | | | |