Name:

## SALT: FL Aquaculture Commodities “Aquatic Plants”

In this week’s segment we will learn more about farming aquatic plants! Each day there will be an assigned reading and activity worksheet to be completed.

Day 1: Freshwater Plant Culture Presentation (UF handout)

Day 2: Aquatic Plant Aquaculture: Rules and Regulations (FDACS handout) Day 3: Florida Prohibited Aquatic Plant List (handout)

Day 4: Freshwater Plant Habitat Guide and Freshwater Plant Habitat Checklist

(handouts)

Day 5: [Florida Aquatic Nurseries](https://youtu.be/OsjyCQs3Pvw) Tour by Brandon McLane\*

\***Video Tours** If internet access is available

To view the recorded Florida Aquatic Nurseries video tour, go to:

1) YouTube.com and search “2018\_SALT\_Aquatic Plant Culture”

OR

2) Open internet browser, type https://youtu.be/OsjyCQs3Pvw in the address bar

## SALT: FL Aquaculture Commodities “Aquatic Plants”

**Day 1:** In today’s lesson we will be reading Freshwater Plant Culture Presentation (handout). Once you are finished, you may use the reading to answer the questions below.

1. What industries are aquatic plants mainly produced for?
2. What are two examples of aquatic crops? List common and scientific names.
3. What are phycocolloids? What aquatic plants produce phycocolloids?
4. Watercress is a good food source for what type of vitamins and nutrients? Given the chance, would you eat watercress?
5. What are the benefits to having freshwater plants in an aquarium?
6. What is aquaponics? What are 2 examples of plants grown in aquaponics?
7. Match the plant name with its description.

|  |  |  |
| --- | --- | --- |
| **Plant Name** | **Answer** | **Description** |
| 1. Water trumpet (*Cryptocorynes*) | \_\_\_\_\_ | 1. Ornamental market |
| 1. Small Duckweed   (*Lemna valdiviana)* | \_\_\_\_\_ | 1. Pest in pond aquaculture |
| 1. Fanwort   (*Cabomba*) | \_\_\_\_\_ | 1. Initially used as a decorative bush; highly invasive |
| 1. Water Lettuce   (*Pistia stratioles)* | \_\_\_\_\_ | 1. Class II plant |
| 1. Amazon Sword (*Echinodorus)* | \_\_\_\_\_ | 1. Hardy once established |
| 1. Brazillian Pepper   (Schinus terebinthifolius) | \_\_\_\_\_ | 1. Used in water gardens |
| 1. Slender arrowhead (Isaguttaria graminea) | \_\_\_\_\_ | 1. Sold as cuttings |

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## SALT: FL Aquaculture Commodities “Aquatic Plants”

**Day 2:** In today’s lesson we will be reading Aquatic Plant Aquaculture:

Rules and Regulations (FDACS-P– 02058). Once you are finished, you may use the reading to answer the questions below.

1. Aquatic plants are produced in what regions of Florida?
2. Aquatic plant nurseries are regulated by what two Divisions within the Florida Department of Agriculture and Consumer Services?
3. What does DPI stand for? What is their primary role with respect to the aquatic plant industry?
4. What certificates do aquatic plant growers need for commercial production?

1. What is a water garden? List 2 examples of plants you may find in a water garden.
2. What considerations should you think about when choosing plants for restoration purposes? List 2 examples of plants you may find in restoration.
3. You are thinking of starting your own aquatic plant farm. What aquatic plant would you like to grow? For what purpose will these plants be used for? Are there any certificates, permits, or licenses you need? Be creative.

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## SALT: FL Aquaculture Commodities “Aquatic Plants”

**Day 3:** In today’s lesson we will be reading the Florida Prohibited Aquatic Plant List (handout). Once you are finished, you may use the reading to answer the questions below.

1. Explain what a class I and class II prohibited plants is. Give 2 examples of plants in each classification.
2. What class of prohibited aquatic plants is water hyacinth?
3. Using your handouts from the previous days, what have you learned about the production of water hyacinth? Are there permitting requirements?
4. What qualities does the Florida Department of Agriculture consider when determining if a plant should be included on the prohibited aquatic plant list? List two qualities.

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## SALT: FL Aquaculture Commodities “Aquatic Plants”

**Day 4:** In today’s lesson we will be reading the Freshwater Plant Habitat Guide and Freshwater Plant Habitat Checklist. Once you are finished, you may use the readings to answer the questions below.

1. Match each plant term with its description. Some plant terms may have more than one correct description.

|  |  |  |
| --- | --- | --- |
| **Term** | **Answer** | **Description** |
| 1. Emersed | \_\_\_\_\_ | 1. Sometimes the leaves and/or flowers may grow above the surface. |
| 1. Free-floating | \_\_\_\_\_ | 1. Rooted to the bottom |
| 1. Floating-leaved | \_\_\_\_\_ | 1. Floats freely on the surface |
| 1. Submersed | \_\_\_\_\_ | 1. A plant species that is present in a region outside its original, historic range due to intentional or unintentional introduction |
| 1. Native | \_\_\_\_\_ | 1. Plants growing with their root, stems, and leaves completely under the surface of the water |
| 1. Nonnative | \_\_\_\_\_ | 1. Does not have any roots attached to the bottom. |
| 1. Invasive | \_\_\_\_\_ | 1. Have most of the vegetative growth above the water |
|  |  | 1. A plant species that occurs naturally in a geographic region or area |
|  |  | 1. May or may not be anchored to the sediment |
|  |  | 1. Non-native plant species able to spread on its own, causing environmental or economic harm |

1. For each plant pictured below determine their habitat type (emersed, free-floating and floating-leaved, submerged) and whether they are native, nonnative, or invasive. Hint: use your Freshwater Plant Habitat Checklist for help

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Name** | **Fanwort** | **Frog’s Bit** | **Hydrilla** |
| **Scientific Name** | *Cabomba caroliniana* | *Limnobium spongia* | *Hydrilla verticillata* |
| **Habitat Type** |  |  |  |
| **Classification** |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Name** | **Hygrophila** | **Red ludwigia** | **Limnophila** |
| **Scientific Name** | *Hygrophila polysperma* | *Ludwigia repens* | *Limnophila sessiliflora* |
| **Habitat Type** |  |  |  |
| **Classification** |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Name** | **Tape grass** | **Water hyacinth** | **Water lettuce** |
| **Scientific Name** | *Vallisneria americana* | *Eichhornia crassipes* | *Pistia stratiotes* |
| **Habitat Type** |  |  |  |
| **Classification** |  |  |  |

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## SALT: FL Aquaculture Commodities “Aquatic Plants”

**Day 5:** In today’s lesson we will be watching the Florida Aquatic Nurseries Tour by Brandon McLane. You can watch the video via YouTube by visiting <https://youtu.be/OsjyCQs3Pvw> (Tour Starts at 31:30 / 54:19). Once you are finished, answer the questions below.

1. Did you learn anything new from the Florida Aquatic Nurseries tour?
2. What was your favorite part of the tour?
3. Was Brandon McLane able to answer all your questions? If not, what questions would you like to ask him?
4. What is the goal of hybridizing different waterlily varieties?
5. What is the name of the purple water lily that Brandon McLane hybridized and got the patent for?
6. You are an aquatic plant farmer growing water lilies. Your goal is to hybridize a new water lily variety.
   1. What traits do you want your water lily to have?
   2. What hybridizing methods would you use (hint: use your handouts from this week)?
   3. What would you name your water lily?

