

# Oyster Aquaculture

## Harvesting & Handling



# Clams



# Oysters



# CLAMS VS OYSTERS

CLAMS	OYSTERS
Harvest All Year Long	Harvest All Year Long (On Lease only)
Harvest All Day Long	Harvest All Day Long In Winter (though not summer)
Any Size Farm-Raised Clams Can be Harvested	Any Size Farm-Raised Oyster Can Be Harvested
Temper Product at $\leq 68^{\circ}\text{F}$	No Tempering



# Vibrio vulnificus

- Vibrio v. is a bacterium that naturally occurs in the warm coastal waters.
- To healthy individuals it is not dangerous
- However to people with certain medical conditions the consumption of **raw** or **under-cooked** oysters can be fatal

**High-risk individuals are those with medical conditions such as:**

- ◇ Liver Disease
- ◇ Diabetes
- ◇ Stomach Disorders
- ◇ Cancers
- ◇ Iron Overload Diseases



# PHP – post harvest processing

*V. vibrio* is easily denatured through various PHP processes such as:

- Cooking
- Freezing
- Other Processing



However, **People Love Raw Oysters!**



# *Vibrio vulnificus*

- The National Shellfish Sanitation Program (NSSP) and the Interstate Shellfish Sanitation Conference (ISSC) established a model ordinance implementing guidelines for oyster harvesting based on a time-temperature matrix.
- This matrix was developed around the thermo-phillic nature of *Vibrio*.

- Since Vibrio thrives in warmer temperatures, the guidelines for oyster collection are based on minimizing high temperature exposure.



# TAGS



Tags: legible, waterproof, with the required indelible information arranged in the specific order as per 5-L 1.007 (a-e).



# TAGS

- Harvester
- Dealer
- Bulk
- Green

**HARVESTER TAG**  
FOR SHUCKING ONLY BY A CERTIFIED DEALER OR FOR POST HARVEST PROCESSING ONLY

HARVESTER SPL # OR AQ # \_\_\_\_\_

DATE OF HARVEST \_\_\_\_\_ TIME OF HARVEST \_\_\_\_\_

Legal Harvest Area Name or #	1601	1611	1622	1642	1652	1671
Specific Harvest Location Name or #	1612	1621	1632	1652	OTHER	

CATPOINT \_\_\_\_\_ MILES \_\_\_\_\_  
EASTHOLE \_\_\_\_\_ PLATFORM \_\_\_\_\_ OTHER \_\_\_\_\_

Type of Shellfish \_\_\_\_\_ OYSTERS \_\_\_\_\_ Quantity of Shellfish \_\_\_\_\_ 1 BAG \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS.

**HARVESTER TAG**

HARVESTER SPL # or AQ # \_\_\_\_\_

DATE OF HARVEST \_\_\_\_\_ TIME OF HARVEST \_\_\_\_\_

Time of Refrigeration, if applicable \_\_\_\_\_

Legal Harvest Area Name or # \_\_\_\_\_

Specific Harvest Location Name or # \_\_\_\_\_

Type of Shellfish \_\_\_\_\_ Quantity of Shellfish \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS

**PERISHABLE**  
KEEP REFRIGERATED

**NAME OF FIRM**  
MAILING ADDRESS OF FIRM  
CITY, STATE & ZIP CODE \_\_\_\_\_

Phone # (\_\_\_\_) \_\_\_\_\_

Cert. # FL ####-SS, SO, RP, OR PHP \_\_\_\_\_ Wholesale # WD \_\_\_\_\_

ORIGINALS SHIPPERS CERT. NO. IF OTHER THAN ABOVE: \_\_\_\_\_

DATE OF HARVEST: \_\_\_\_\_

HARVEST AREA, NAME, OR #: \_\_\_\_\_

TYPE OF SHELLFISH: \_\_\_\_\_

QUANTITY OF SHELLFISH: \_\_\_\_\_

SELL BY: \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS

**PERISHABLE**  
KEEP REFRIGERATED

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**BULK AQUACULTURE TAG**  
ALL SHELLFISH CONTAINERS IN THIS LOT HAVE THE SAME DATE AND AREA OF HARVEST, AS WELL AS THE SAME INTENDED USE

HARVESTER SPL # or AQ # \_\_\_\_\_

DATE OF HARVEST \_\_\_\_\_ TIME OF HARVEST \_\_\_\_\_

Time of Refrigeration, if applicable \_\_\_\_\_

Legal Harvest Area Name or # \_\_\_\_\_

Specific Harvest Area Name or # \_\_\_\_\_

Type of Shellfish \_\_\_\_\_ Quantity of Shellfish \_\_\_\_\_

Product consigned to certified shellfish processor # \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS

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Specific Harvest Area Name or # \_\_\_\_\_

Type of Shellfish \_\_\_\_\_ Quantity of Shellfish \_\_\_\_\_

Product consigned to certified shellfish processor # \_\_\_\_\_

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# White Tags



White tags – are used for product that may be consumed **raw** or cooked.



# Green Tags

## **FLORIDA GREEN TAGS**

**This is known as Restricted Use Product.**

**Oysters tagged with a green tag must be subject to further processing\* *before* distribution to retail or food service establishments.**



# Oyster Harvest Calendar

## 5L- 1.008 : ESTABLISHED TIME LIMITS FOR OYSTER HARVEST (White Tag)

<div>January</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>5</td><td colspan="6"></td></tr><tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr><tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr><tr><td>26</td><td>27</td><td>28</td><td>29</td><td></td><td></td><td></td></tr></table>	S	M	T	W	T	F	S				1	2	3	4	5							12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29				<div>February</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr><tr><td colspan="7"></td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr><tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr><tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr></table>	S	M	T	W	T	F	S					1	2	3								11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<div>March</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td colspan="7"></td></tr><tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr><tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr><tr><td>29</td><td>30</td><td></td><td></td><td></td><td></td><td></td></tr></table>	S	M	T	W	T	F	S	1	2	3	4	5	6	7								15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						<div>April</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td colspan="7"></td></tr><tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr><tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr><tr><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td></tr></table>	S	M	T	W	T	F	S			1	2	3	4	5								13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31									
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- Oyster must be in cooler of Certified Shellfish Dealer by 10:00 p.m. same day as harvest
- Oyster must be in cooler of Certified Shellfish Dealer by 4:00 p.m. same day as harvest
- Oyster must be in cooler of Certified Shellfish Dealer by 11:30 a.m. same day as harvest or 2:00 p.m. for Rapid Cool
- Oyster must be in cooler of Certified Shellfish Dealer by 12:00 p.m. same day as harvest or 2:00 p.m. for Rapid Cool
- Oyster must be in cooler of Certified Shellfish Dealer by 5:00 p.m. same day as harvest

**ANY OYSTERS NOT HARVESTED AND DELIVERED WITHIN THESE TIME LIMITS MUST BE GREEN TAGGED - "FOR SHUCKING ONLY BY A CERTIFIED DEALER" OR "FOR POST HARVEST PROCESS ONLY"**



# Harvest Options

**Traditional**

**WHITE TAG**

11:30 AM –  
12:00 PM

**GREEN TAG**

**Rapid Cool**

**WHITE TAG**

2:00 PM

**TAG**

4:00 PM

**GREEN TAG**

**Oysters must be at  
55° (or below)**



# Certified Dealers

**5-L Mandates that All Shellfish Must be Delivered  
Directly to a Certified Dealer**



## Certified Dealers -

# RECORDS

(During Vv months)

- HACCP Plan – for shellstock indicating Vv management
- Receiving – to identify any green tagged product received
- Sales – to identify any green tagged product sold
- Daily Cooler Log – shellstock temperatures after rapid cool or traditional





**HARVESTER TAG**

HARVESTER SPL # or AQ # \_\_\_\_\_

DATE OF HARVEST \_\_\_\_\_ TIME OF HARVEST \_\_\_\_\_

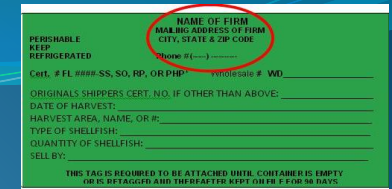
Time of Refrigeration, if applicable \_\_\_\_\_

☐ Legal Harvest Area Name or # \_\_\_\_\_

☐ Specific Harvest Location Name or # \_\_\_\_\_

Type of Shellfish \_\_\_\_\_ Quantity of Shellfish \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT OIL-FREE FOR 30 DAYS



**NAME OF FIRM**  
MAILING ADDRESS OF FIRM  
CITY, STATE & ZIP CODE  
PHONE # ( ) - \_\_\_\_\_

PERSONABLE  
KEEP  
REFRIGERATED

Cert. # FL ###-SS, SO, RD, OR PHP \_\_\_\_\_ PROCESSOR # WD \_\_\_\_\_

ORIGINALS SHIPPERS CERT. NO. IF OTHER THAN ABOVE: \_\_\_\_\_

DATE OF HARVEST: \_\_\_\_\_

HARVEST AREA, NAME, OR # \_\_\_\_\_

TYPE OF SHELLFISH: \_\_\_\_\_

QUANTITY OF SHELLFISH: \_\_\_\_\_

SELL BY: \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT OIL-FREE FOR 30 DAYS

# White vs Green

Florida uses 2 different colors - white & green.

- White tags – used for product that may be consumed raw or cooked.
- Green tags - used for product that must be further processed\* *before* distribution to retail or food service

\* by a certified shellfish processor



# Cooling Options

Florida uses **2** different cooling options

- **Traditional** – product in within time/temp matrix and cooled to 55 ° with in 8 hours
- **Rapid Cool** – product in cooler by 2 pm and cooled to 55 ° by 4 pm (2 hours)



# Certified Dealers

- Harvesters may only be sell to Certified Dealers
- Dealers will have a few additional records to maintain
- Only Dealers certified as Shucker Packers (SP)  
are allowed to shuck product



# Produce a safe harvest!



Farm-raised oyster images courtesy Auburn University.

