



RECOMMENDED BEST HANDLING PRACTICES TO PRODUCE PREMIUM QUALITY LOUISIANA WILD CAUGHT SHRIMP FOR LOUISIANA DIRECT PROGRAM

ICE BOATS

APPLIES TO

- Day Boats – Skimmers – Larger Boats (only last 2-4 days of catch)

TRIP LENGTH

- Your goal is not to fill the boat with shrimp, but to fill customers' orders
- ONLY 2 to 4 days or nights of shrimping using these guidelines for premium shrimp
- Remember, shrimp must have several days of high quality left after unloading for customer assurance

REDUCE TOW TIMES

- Premium quality shrimp requires shorter pushing, towing, or drag times
 - Skimmers can work shrimp steadily, pulling up one side after the other
 - **2 hour max dragging when water is more than 80°F**
 - **3 hours max dragging when water is less than 80°F**
 - Shrimp start degrading once they die, whether in the net or on the deck

WORKING SHRIMP ON DECK

- Work shrimp immediately after landing one basket at a time
 - Sort, rinse, dip (if used), chill in ice slush, store in ice, then go to the next basket
- Work in shade, not in full sun
- Keep dip solution (if used) and ice slush in shade
- Spray water or pour ice on shrimp pile to keep cool while working

◆ CULLING & SORTING

- Carefully remove & sort premium shrimp into separate baskets
- Do Not use a salt box to separate premium quality shrimp

◆ RINSING

- Rinse shrimp thoroughly to remove dirt and bacteria
- Rinse again – removing dirt and bacteria means higher quality
- Will help maintain proper action and use of Blackspot solution

◆ **BLACKSPOT TREATMENT (DIP)**

- Fill basket with no more than 30 lbs of shrimp, or half full
- Soak and agitate basket, making sure all shrimp contact solution
 - 1 – 2 minutes for sulfites, label directions for alternative treatments
- Use fresh sea water
- Do Not use alternative treatments in ice slush
- Mix a new batch after 500 pounds or 16 baskets of shrimp, or at least once a day
- Do Not spread dip or treatment directly on shrimp
- Do Not use TRI-POLYPHOSPHATES OR OTHER CHEMICALS

◆ **CHILLING**

- Rapid chilling and low temperature are critical to produce high quality shrimp
- Slush ice chilled shrimp will melt less ice during storage
- Dip shrimp in slush ice (50:50 ratio ice:water)
 - Mark fill line on slush tank so slush with shrimp does not overflow tank
 - Fill slush barrel with one-half volume of ice
 - Add water to fill line to make 50:50 mixture
 - Fill basket with no more than 30 lbs of shrimp, or half full
 - Dip for at least 2 - 5 minutes, making sure all shrimp contact slush ice
 - And/remove water as needed to keep a 50/50 ratio of ice and water in the slush barrel
 - Maintaining this ratio and steady use should keep the slush near 32°F

◆ **ICING AND STORAGE**

- 1 - 2 pounds of clean ice should be used for each pound of shrimp
- Ice shrimp immediately after slushing
- Remember, ice used in the slush tank should reduce ice melt in hold
 - Layer 6" of ice on floor and against sides
 - Layer of shrimp
 - Cover with layer of ice
- Be careful not to crush or damage the shrimp, do not pile above 2' high
- Ice hold should not exceed 35°F – low temperature extends shelf-life and quality
- Keep shrimp separated based on market being sold to and days caught

UNLOADING

- Store and keep premium shrimp separate that can be easily unloaded
- Handle shrimp carefully and quickly during weighing and sale to customer
- Provide ice to prevent temperature increases during transportation

SANITATION OF EQUIPMENT AND VESSEL

- **IMPORTANT**-Prevents build-up of bacteria and enzymes that reduce shrimp quality
- Rinse deck and equipment after working each drag and before dumping next bag
- Clean and sanitize deck and equipment at the end of each day
- After each trip thoroughly clean and sanitize deck, equipment, and storage areas

PREPARED BY:

DR. JON W. BELL, LSU AGCENTER, DEPARTMENT OF FOOD SCIENCE
JULIE J. FALGOUT, LOUISIANA SEA GRANT

RECOMMENDED BEST HANDLING PRACTICES TO PRODUCE PREMIUM QUALITY LOUISIANA WILD CAUGHT SHRIMP FOR LOUISIANA DIRECT PROGRAM

FREEZER BOATS

REDUCE TOW TIMES

- Premium quality shrimp requires shorter towing or drag times
- **2 hour max when water is more than 80°F**
- **3 hours max when water is less than 80°F**

WORKING SHRIMP ON DECK

- Work shrimp immediately after landing, one basket at a time
 - Sort, rinse, dip, fill bags or boxes, place in brine tank, then go to the next basket
- Work in shade, not in full sun
- Keep dip treatment solution in shade

◆ CULLING & SORTING

- Carefully remove & sort premium shrimp into separate baskets
- Do Not use a salt box to separate premium quality shrimp

◆ RINSING

- Rinse shrimp thoroughly to remove dirt and bacteria
- Will help maintain proper action and life and Everfresh solution

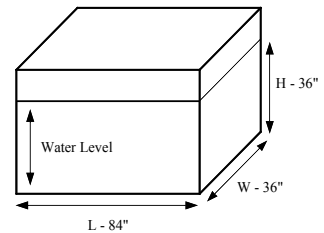
◆ BLACKSPOT TREATMENT (DIP)

- Use dip (sulfite powder) in brine freezing tank (see below)
- For alternative treatments, follow label directions for amounts and soak time
 - Agitate basket and make sure all shrimp contact solution
 - Use fresh sea water
 - Mix a new batch after 500 pounds or 16 baskets of shrimp, or at least once a day
- Do Not spread dip or treatment directly on shrimp
- Do Not use TRI-POLYPHOSPHATES OR OTHER CHEMICALS

◆ **FREEZING AND STORAGE – BRINE FREEZING**

- Freeze shrimp as quickly as possible to reduce weight loss, salt intake, and drip loss upon thawing.
- Shrimp should freeze within 20 minutes if brine is working properly
 - Longer freezing times will add salt to shrimp and pull water out

- **Measure the gallon capacity of your brine tank**
 - Mark the “fill line” (height) and measure it in inches
 - Measure the inside width and length of tank in inches
 - Gallon capacity = (Height x Length x Width) ÷ 231
 - Ex. (36” x 84” x 36”) ÷ 231 = 471 gallons



- **Charge the brine system “before” each trip**
 - Fill tank with clean water to the fill line you marked
 - Add salt and dip powder (if not using alternative treatment) according to the table below
 - Keep the temperature below 5°F – monitor with a thermometer

INGREDIENTS	PROPORTIONS	QUANTITY FOR 471 GALLON EXAMPLE
Food-grade salt	2.53 lb. per gallon	(2.53 x 471 gal.) = 1,192 lb.
Dip powder	0.074 lb. per gallon	(0.074 x 471 gal.) = 34.8 lb.

- **Freezing shrimp in bags or boxes**
 - Never load more that 15 pounds of shrimp to 100 gallons of brine
 - Overloading system can cause soft centers and uneven freezing
 - Do not overstuff bags or boxes – can result in poor brine circulation and slow freezing, causing hot spots and red shrimp
 - Use Small Bags – 30# capacity – do not force shrimp in – fill naturally and tie off
 - Shrimp need to be fully frozen before removing from brine and storing
 - Keep track of the order bags/boxes are loaded in brine to know when to remove
- **Recharge brine system using Pounds or Refractometer Method**
 - Freezing shrimp decreases the brine concentration, so salt must be added to maintain correct concentration and proper freezing
 - Dissolve salt in small amount of warm water before adding to tank
 - Pounds Method - add 28 pounds of salt after freezing every 1,000 pounds of shrimp
 - Refractometer Method – add salt when refractometer drops 2 percentage units from original reading according to instructions (recommended method)

SANITATION OF EQUIPMENT AND VESSEL

- IMPORTANT - Prevents build-up of bacteria and enzymes that reduce shrimp quality
- Rinse deck and equipment after working each drag and before dumping next bag
- Clean deck and equipment at the end of each day with detergent and sanitizing solution
- After each trip thoroughly clean and sanitize deck, equipment, brine tank and storage areas