

1 1 Scope

2 This Code of Good Aquaculture Practices (GAqP) for oysters and mussels covers practices
3 that aim to prevent or minimize the risks associated with aquaculture production in
4 brackish and marine waters. This Code covers the following aspects of aquaculture
5 production addressing food safety, environmental integrity, and d) socio-economic
6 welfare.

7 This Code applies to aquaculture farms and/or production area intended for oyster and
8 mussel farming and consists of minimum compliance requirements.

9 2 References

10 The titles of the publications referred to in this Standard are listed in the inside back cover.

11 3 Definition of terms

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13 **3.1 Aquaculture farm** refers to an aquaculture production unit (either land- or water-
14 based such as but not limited to estuaries and coastal waters); usually consisting of holding
15 facilities (tanks, ponds, raceways, cages), plant (buildings, storage, processing), service
16 equipment and stock. (modified from CAC/RCP 52-2003)

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18 **3.2 Chemicals** refer to any substance either natural or synthetic that can affect the live
19 oysters and mussels, its pathogens, and the water, equipment used for production or the land
20 within the aquaculture establishment. (CAC/RCP 52-2003)

21 **3.3 Competent authority** refers to a bureau or agency mandated by law with the
22 responsibility for the implementation of sanitary and phytosanitary (SPS) measures.

23 **3.4 Harmful algal bloom (HAB)** refers to an event associated with the occurrence of
24 microalgae which cause harmful effects to the environment, living organism and to human.

25 **3.5 Production area** refers to any sea, estuarine or lagoon area where oysters and
26 mussel are collected and cultured

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28 4. Site selection

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30 4.1 Location

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32 **4.1.1** Production area should be located in an environmentally suitable area designated by
33 the competent authority.

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35 **4.1.2** Production area in which the owner has a proof of legal right or privileges (license to
36 operate or business permit from the local government unit) indicating the farm location
37 through coordinates and effectivity period.

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39 **4.1.3** Production area should comply with existing environmental regulations by competent
40 authority.

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42 4.2 Lay-out and design

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44 **4.2.1** Farm design and layout should prevent cross contamination and damage to existing
45 marine habitats.

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47 **4.2.2** Production area should be designed with proper space allocation for its facilities. Area
48 and space allocation should provide ease of navigation and free flow of intertidal water.
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50 **4.2.3** Culture facilities should be designed and constructed to ensure minimal physical
51 damage to oyster and mussel during growing and harvesting.
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53 **4.2.4** Design and materials (e.g. bamboo stakes and rubber tires) should not cause siltation
54 of the area and negative environmental impacts.
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56 **5 Facilities and sanitation**

57 **5.1 Facilities**

58 **5.1.1** Solid and liquid wastes should be kept in confined area and its disposal should be
59 compliant with existing regulations.
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61 **5.1.2** Fuel and/or chemical substances (sanitizer and reagents), should be stored separately
62 and in safe condition.
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64 **5.1.3** Regular repair and maintenance should be undertaken to preserve the good physical
65 condition of the facility.
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67 **5.2 Sanitation**

68 **5.2.1** Production area and its surroundings should be maintained in a clean and hygienic
69 condition.
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71 **5.2.2** Containers, equipment and farm facilities should be maintained in good condition for
72 ease in cleaning and sanitizing.
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74 **5.2.3** Adequate procedures for cleaning and disinfection of containers, equipment and farm
75 facilities should be in place and implemented.
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77 **5.2.4** Cleansing materials and disinfectants should be non-toxic and pose no environmental
78 hazards.
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80 **5.2.5** Wild and domesticated animals should not be allowed in the production area and
81 vicinities to prevent fecal and other hazardous contaminations.
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83 **5.3 Wastes removal**

84 **5.3.1** Wastes should be properly segregated and removed at least once a day.
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86 **5.3.2** Wastes containers and the waste storage premises should be cleaned and sanitized
87 after each use.
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89 **5.3.3** Wastes should be properly stored such that it is not a source of contamination.
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91 **6 Management**

92 **6.1 Production management**

93 **6.1.1** Disposal of natural wastes like excessive barnacles should be properly managed.
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95 **6.1.2** Propagation practices in the production area should minimize risk of cross-
96 contamination.
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103 **6.1.3** Seeds or spats should be sourced from HAB-free areas and areas without history of
104 HAB.

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106 **6.1.4** When necessary, depuration and relaying practices should be resorted to maintain
107 product safety and quality.

108 **6.2 Water quality**

110 **6.2.1** Water quality should be regularly monitored to determine its suitability and product
111 safety.

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113 **6.2.2** Water should be far from sources of pollution, suitable, and free from bacterial and
114 heavy metal contamination.

115 **7 Oysters and mussels diseases**

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118 **7.1** Production area should follow existing protocol on aquatic animal health.

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120 **7.2** Measures for the notification and control of significant diseases of oyster and mussel
121 should be in place.

122 **8 Harvesting and handling**

123 **8.1 Harvesting**

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126 **8.1.1** Harvesting equipment (e.g. containers and vehicles for harvested animals) and
127 paraphernalia should be easy to clean, and kept in sanitary and good operating condition.

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130 **8.1.2** Harvesting should be done in a manner that will not expose the oysters and mussels
131 to high temperatures.

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133 **8.1.3** Oyster and mussel should be quickly and hygienically handled, using practices to
134 maintain the good quality of the product.

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136 **8.1.4** Harvested mussels and oysters should be disease and toxin-free.

137 **8.2 Post-harvest handling and transport**

138 **8.2.1** Post-harvesting equipment and paraphernalia should be easy to clean and kept in
139 sanitary and good operating condition.

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141 **8.2.2** Operations such as sorting, weighing, washing, draining and packing should be carried
142 out properly, hygienically and without damage to the product.

143
144 **8.2.3** Transport container and other implements should be carried out in clean and easy to
145 clean facilities (sacks, containers, vehicle etc.).

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147 **8.2.4** Oysters and mussels should be transported under physical conditions which do not
148 adversely affect their marketability and consumer acceptability.

149 **9 Personnel health and hygiene**

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152 **9.1** All workers should be physically fit.

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154 **9.2** Workers should be trained on farm level hygienic practices to ensure they are aware of
155 their roles and responsibilities for protecting aquaculture products from contamination and
156 deterioration throughout the production cycle.

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158 **9.3** Personnel who could contaminate products should be excluded from working and
159 handling of oysters and mussels.

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161 **9.4** Workers should wear suitable and appropriate working clothes and protective gears.

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163 **9.5** Workers should wash their hands each time before commencing postharvest work.

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165 **9.6** Smoking, spitting or drinking alcoholic beverages in the working and storage premises
166 should be discouraged.

167 168 **10 Traceability and record keeping**

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170 **10.1** Adequate records on the origins and species used and management activities should be
171 kept in the production area.

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173 **10.2** Records for the movement of oysters and mussels should be maintained and reported
174 for traceability in the event of disease outbreak.

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176 **10.3** Records on harvesting should be maintained.

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178 **10.4** Adequate records on the buyers of final products should be kept (one-step- forward
179 traceability).

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181 **10.5** All records should be recorded, kept, maintained and made accessible during culture
182 and for at least 24 months after harvesting.

183 184 **11 Labor and community**

185 186 **11.1 Child labor**

187 Anti-child labor, laws, policies and practices should be observed.

188 189 **11.2 Anti- discrimination/ unequal treatment of employee policy**

190 Workers should not be discriminated against on the basis of gender, race, religion, culture,
191 age, etc.

192 193 **11.3 Training on safety**

194 Training on safety procedures should be conducted for the workers.

195 196 **11.4 First aid**

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198 **11.4.1** First aid kit should be available in adequate quantity and conveniently accessible at
199 the production area.

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201 **11.4.2** Laborers should be able to demonstrate awareness and application of the different
202 first aid measures.

203 204 **11.5 Wages and working hours**

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206 **11.5.1** Workers should receive fair and decent salary consistent with existing laws and
207 other regulations.

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209 **11.5.2** Working hours or piece wage rates should be based on existing labor laws and
210 regulations.

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212 **11.6 Living conditions for employees**

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214 **11.6.1** Living quarters of stay-in labor should be safe, clean, good habitable condition and
215 convenient.

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217 **11.6.2** Potable water in adequate supply and suitable toilets (e.g. portal let) should be
218 available and properly maintained.

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220 **11.7 Social Aspects**

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222 **11.7.1** Farms operation should observe the rights of host local community on the use of
223 public land, infrastructures, fishing grounds, and water resources following existing laws
224 and regulations.

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226 **11.7.2** Harmonious, productive and mutually beneficial relationship with the local
227 community should be maintained to foster responsible business social responsibility.

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265 **References**

266 The following reference documents are indispensable for the application of this document. For dated
267 references, only the edition cited applies. For undated references, the latest edition of the referenced
268 document (including any amendments) applies.

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