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In controls, the average of nitrate concentration was 0.243 mg/l. In 1kg *Gracilaria* /m^3 the average of nitrate concentration was 0.137 mg/l, or 41.66% lower. In the presence of 2 kg *Gracillaria* /m^3, the average concentration of nitrate was 0.124 mg/l, or removed almost 50%. Whereas in the presence of 3 kg *Gracillaria* /m^3 the average of nitrate content was 0.095 mg /l, or reduced by 74.29%. *Gracillaria* density negatively correlated to nitrate content in the water ($r=0.58^*$, $p=0.03184$ $n=12$).

As an aquatic plant, *Gracillaria* need inorganic nitrogen for metabolism. According to Dawes (1981), *Gracillaria* prefer ammonia than nitrite or nitrate. The presence of ammonia in the water promotes more *Gracilaria* growth rate compared to nitrite and nitrate (Jones, 1995). Nitrite is inorganic nitrogen that only absorbed by certain aquatic plants (Dawes, 1981). However, in the research *Gracilaria* show its capability in nitrite reduction. This may be due to the reduction of ammonia as the source of nitrite. It can be concluded that *Gracilaria* density affect the rate of nitrite removal. The more *Gracilaria* density, nitrite removal was increased.

Nitrate is one of inorganic nitrogen that is required by aquatic plants (Dawes, 1981, Wetzel, 1983). In the plant tissue, nitrate is reduced and then is aminated to form amino acid (Dring, 1992; Luning, 1990). *Gracillaria* absorbed inorganic nitrogen particularly ammonia (Dawes, 1981). However, *Gracillaria* also capable in absorbing of nitrate if ammonia concentration in the water is low and sun light scare (Jones, 1995). *Gracillaria* is one of seaweeds that capable in reduced nitrate into ammonia, then will be absorbed and assimilated (Luning, 1991).

CONCLUSION

It can be concluded that the presence of *Gracilaria* removed ammonia, nitrite and nitrate from the shrimp pond. The density of *Gracilaria* affects the rate of inorganic nitrogen removal.The more densed of *Gracilaria*, the rate of removal is increased.

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