

FATTY ACID COMPOSITION OF MYTILUS GALLOPROVINCIALIS LARVAE FED ON DIFFERENT MICROALGAL DIETS: EFFECT ON LARVAL GROWTH AND SURVIVAL

Inés Martínez-Pita* , M^a Luisa Cordero Villafáfila and Clara Sánchez-Lazo



I.F.A.P.A. Centro Agua del Pino. Consejería de Agricultura y Pesca. Junta de Andalucía. Ctra. El Rompido - Punta Umbría, km. 3,8. Cartaya, Huelva, Spain.

e-mail: ines.martinez@juntadeandalucia.es

OBJETIVES

1. to describe fatty acid composition of *Mytilus galloprovincialis* D-larvae.

2. to investigate the influence of algal lipid composition on larval growth and survival.

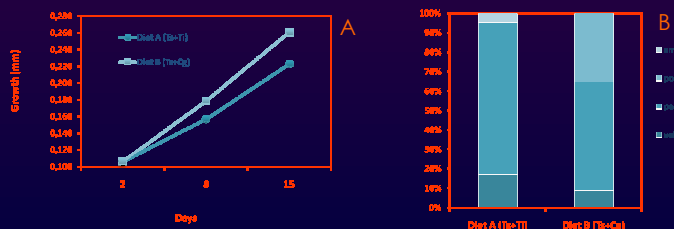
RESULTS

Larval fatty acid composition

- The **main fatty acids** in D-Larvae → 16:0, 20:5n-3 (EPA) and 22:6n-3 (DHA).
- The most abundant **saturates** → 14:0 (3.21 %), 16:0 (18.49 %) and 18:0 (3.38 %).
- The most important **monounsaturated fatty acid** → 16:1n-7 (7.12 %), others as 16:1n-9, 18:1n-7 and 18:1n-9 showed levels between 2-3 %.
- The total **PUFA** level was 12.49 %, the most abundant n-3 polyunsaturated fatty acids EPA (4.60 %) and DHA (2.64 %).
- The **arachidonic acid** (20:4n-6) is present in low percentage (0.55%).

Diet effect

1. Larval growth higher and development faster with Diet B.
2. Larval survival higher with Diet A.



CONCLUSION

The presence of the diatom *Chaetoceros* in mussel larval diet seems to enhance the larval development and growth. The EPA increase due to diet could contribute to the culture improvement.

MATERIAL & METHOD

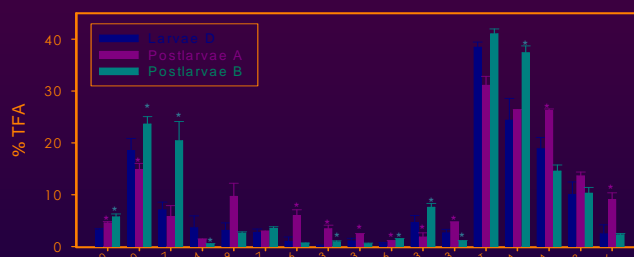
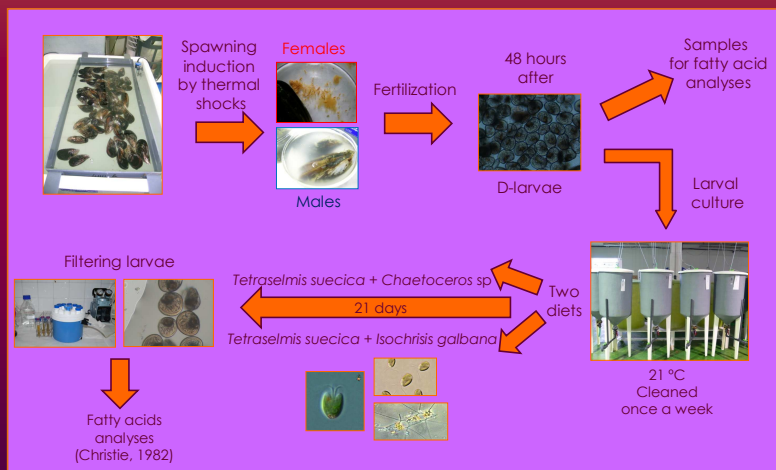


Figure 2. Percentage of selected fatty acids in two different developmental stages and with two different Diet A (Ts+T) and B (Ts+Cg). SAT: total saturates fatty acids, MUFA: total monounsaturated fatty acids, PUFA: total polyunsaturated fatty acids.

Fatty acid changes between D-larvae and postlarvae

1. 14:0, 18:3n-3, 20:4n-6 and MUFA increase in both groups.
2. 16:0, 16:1n-7, 20:5n-3 and SAT decrease in group A increasing in group B.
3. 18:1n-9, 18:2n-6, 18:4n-3, 22:6n-3 and PUFA increase in group A decreasing in group B.

Christie, W.W. 1982. Lipid Analysis, second ed. Pergamon, Oxford.