Fisheries Transport Systems

AQS325

12. Week

Carrying equipment

Weeks	Topics
1. Week	Carry fish by iced water
2. Week	Carrying the fishes by cooled sea water
3. Week	Carry fishes with ice
4. Week	Carry by cooled store
5. Week	Carry by freezing
6. Week	Carry by salt
7. Week	Fish transport: rules
8. Week	Carry alive fish
9. Week	Carry alive fish with oxygen
10. Week	Carry alive crustacean
11. Week	Carry alive larvae
12. Week	Carrying equipment
13. Week	Carry by frigorific track
14. Week	Carry fishes long distance

THE MAIN FACTORS AND PRINCIPLES ASSOCIATED WITH FISH TRANSPORT

Quality of Fish

Oxygen/ pH, Carbon Dioxide and Ammonia

Temperature

Density and Activity of Transported Fish

Biochemical Changes and Stress in Transported Fish

General Notes

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_044511.pdf

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CLOSED SYSTEMS OF FISH TRANSPORT

Polyethylene Bags

Other Sealed Containers

Fry Densities in Plastic Bags

General Notes on the Transport of Juvenile Fish in Bags

Transport of Large Fish in Bags

General Notes on the Transport of Brood Fish in Bags

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_044511.pdf

OPEN SYSTEMS OF FISH TRANSPORT

General Technological Notes

Technical Designs of Transport Units

Small Transport Units

Large Transport Tanks

Single-purpose Transport Trucks

Water Aeration/Oxygenation and Temperature

Fish Densities in Transport Units

Transport of Pike-Perch

Railway Fish Transport

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CLOSED SYSTEMS OF FISH TRANSPORT

The closed systems are represented by polyethylene bags and other sealed transport units. They are used mainly for the transport of the early fry, but also brood fish. The transport of fry in polyethylene bags with oxygen is particularly widespread in the world, being used as a very effective method. It substantially reduces the total volume and weight of transport water, enables public transport to be used for fishtransport purposes, makes it possible to prolong the transport time, and is economically advantageous.

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CLOSED SYSTEMS OF FISH TRANSPORT

Polyethylene Bags

The bags used for fish transport in water with oxygen atmosphere are produced in a number of modifications. They are manufactured from a thin (soft) or thicker (hard) transparent polyethylene foil and usually have the shape of sack or sleeve.

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CLOSED SYSTEMS OF FISH TRANSPORT

Other Sealed Containers Containers similar to polyethylene bags may be sealed. Generally made of cured plastics they can do the same job as bags and do not require as much care during handling, despite repeated use. However, their unit price is much higher.

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CLOSED SYSTEMS OF FISH TRANSPORT

In the final comments on fry transport in polyethylene bags, some findings and information should be mentioned, as given generally in the relevant literature. Emphasis should be laid on the requirements to transport the fry after the absorption of food: when the fry are freshly fed the amount to be transported should be reduced by at least 50%. The water in which sac fry are transported should be kept as still as possible (the fry could be damaged in the bags). On the other hand, advanced fry and fingerlings are not affected by increased movement of the transport water. When oxygen is replaced in the bag during shipment survival increases by 20–40%; when half the water and all oxygen are replaced survival increases by 50–60%. and when all water and all oxygen are replaced the increase in survival is by 90–100% (Orlov et al., 1973).

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