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THEMATIC FACTSHEET

WELFARE RISKS FOR THE FARMED COMMON CARP

INTRODUCTION

To support the assessment of welfare of the common carp *(Cyprinus carpio)* by competent authorities, this factsheet highlights the most critical welfare risks for adult farmed carp in European aquaculture.

The welfare of the carp is the most vulnerable during phases of a high handling stress, such as transport, harvest and slaughter. The development of welfare scoring index for each of these provides a basis for evaluating the optimal welfare practices.

LEGAL REQUIREMENTS

In the EU, carp welfare falls under the general farmed animal legislation:

- **Council Directive (EC) 98/58:** sets general protection requirements for animals kept for farming purposes and obliges the Member States to ensure that the owners will secure the welfare of kept animals.
- **Council Regulation (EC) 1/2005:** outlines conditions for transport of live vertebrates to avoid suffering and injury.
- **Council Regulation (EC) 1099/2009:** emphasizes humane slaughter of animals without any avoidable pain, distress or suffering.

TRANSPORT

Welfare risks during transport

Fish transport tanks should be equipped with an oxygen supply, with an exception when transportation lasts up to 1 hour. The ratio of water to fish is typically 1:3. The fish density depends on the duration of transport and the conditions of harvesting. It usually ranges between 500 - 1,000 kg/ tank.

For summer long distance transport, tanks of 2,000-2,300 l are used, with fish load <1,000 kg. Winter transport requires the same volume of tanks, but fish load can be >1,000 kg.

⚠ The most important potential causes of welfare loss during transport

- No water change is done in transport longer that 24h
- Low oxygen levels and deteriorated water quality
- Water temperature for 24h winter transport is below 3-5°C
- Water temperature for 24h summer transport is above 18-20°C
- The fish are poured from loading tanks to transport tanks from a large height
- Fish are shaken and bumped to tank walls during loading
- Loading time is longer than 15 minutes
- Increased levels of ammonia

Transport welfare assessment score

Risk to welfare	Low	Moderate	High
Time of loading	< 15 min	15 min	> 15 min
Hits*	Minimal	Occasional	Frequent
Ammonia level**	<500 µmol/ l	500 - 1, 200 µmol/l	> 1,200 µmol/ l
Water change within 24h	Yes		No

** Fish are shaken and bumped to tank walls during loading*
***Ammonia concentrations in plasma of the carp*

HARVEST

Welfare risks during harvest

In Central Europe harvest is usually done from early October to mid-November. The temperature in the pond needs to be preferably below 10-15°C.

⚠ The most important potential causes of welfare loss during harvest

- The water oxygen level in the fishing spot is too low
- Fish are out of the water for long periods during the catching process
- Last 24h of pond draining results in too low oxygen level in the pond
- Grading is done for too long, exposing the fish to light and air

Harvest welfare assessment score

Risk to welfare	Low	Moderate	High
Saturation of water with oxygen	> 40%	40 - 25%	< 25%
Last 24 h of pond draining outside of oxygen limits*	0 h	< 1 h	> 1 h
Duration of fish out of the water	< 30 s	30 s - 3 min	> 3 min

** Carp suffers the lack of oxygen when the saturation is below 25%*

SLAUGHTER

Welfare risks during slaughter

Farmed carp are marketed either live or slaughtered. Slaughter by bleeding should follow stunning using percussive blow, electrical current, or ideally a combination of both methods. Unconsciousness must be confirmed prior to bleeding.

⚠ The most important potential causes of welfare loss during slaughter

- Incorrect placement of the head strike during the stunning process
- Dysfunctional mechanization
- Inexperienced staff
- Delay between stunning and bleeding

The traditional selling of live carp during Christmas time in certain areas of Central Europe, such as Czech Republic and Poland presents welfare risk to the fish. Carp are exposed to stress due to prolonged holding in tanks with poor water quality on market sites, or in the consumers' households, and amateur slaughter.

Stunning welfare assessment score

Risk to welfare	Low	Moderate	High
Head Strike	Correct placement	Near the brain but not precise	Incorrect placement/ multiple attempts
Duration of electric stunning	5 min	5 - 2 min	< 2 min

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