

PHARMAQ



EVALUATION  
OF  
HATCHERIES

[www.pharmaq.com](http://www.pharmaq.com)

zoetis

# Manual to evaluation in hatcheries

## Externally

Catarract: % of lens area involved

0	Normal
1	Pinpoint → 10%
2	10-50%
3	50-75%
4	75-100%

Fish with double sided index 3 or 4, should be excluded.

### Operculum

0	Normal
1	Irregular shape or gill cover. Gills can be observed at the rear end
2	Gills clearly visible. Gill-cover is still protecting the gills
3	Gills exposed. Gill-cover greatly reduced
4	Gill-cover largely/completely missing. Gills fully visible

### Fin quality

0	Normal
1	Small injury (e.g. minor splits) or reduced size
2	Medium injury (e.g. kinks, large splits) and reduced size
3	Injured fin reduced down to base. Skin inflammation and/or scar tissue may be present at the base.

### Lesions

0	Normal skin	Ok
1	Small wounds, connected to scale losses	Healed sore leaves no scar
2	Minor skin injury with visible muscle	Healed sore leaves no scar
3	Distinct sore	Visible scar after healing
4	Large sore	May cause mortality

### Deformities

0	None	
1	Visible deformities	Specify type of deformity (spinal, jaw etc)

### Smolt

Grade	Silver colour	Finger marks (parr marks)	Edge on tail fin
1	None	Marked	None
2	Weak	Visible	Weak
3	Visible	Weak	Visible
4	Silver	None	Black

The average of the three categories determines the final classification.

### Injection site (see table at the back of form)

Lengthways	Posterior limit: ¾ pelvic fin length forward from the anterior end of the pelvic fin basis. Slightly longer forward in rainbow trout. Optimum front limit: maximum 10 mm in front of anterior end of gristle plates of pelvic fins, irrespective of fish size. Acceptable front limit: rear end of pectoral fins.
Sideways	Injection site should be nearer mid line than edge of "belly"

### Evaluation of point of injection

Categories	Quality of injection	Length direction	Sideways deviation
0	Optimum	From front end of gristle plates and 10mm forward	No sideways deviation
1	Within the recommended site	+ 1 in front of optimum - 1 behind optimum	+ 1 left of midline - 1 left of midline
2	Not acceptable.	+ 2 not accepted anterior - 2 not accepted posterior	+ 2 right of midline - 2 right of midline

PHARMAQ will re-define the recommendations if relevant data makes this necessary.

## Internally

### Vaccine residues

0	No vaccine residues.
1	Vaccine residues are enclosed in vesicles. Only small amounts of residues.
2	Larger amounts of vaccine residues enclosed in vesicles and often small or moderate amounts of free flowing vaccine.
3	Extensive quantities of free flowing vaccine. Appears "recently vaccinated".

### Adhesions

Recorded under "T"(total), or recorded at each location 1, 2 and 3, where the location with the highest adverse reaction will be used as the "Total average score"

0	No visible lesions
1	Very slight adhesions seen as tiny fibrous tissue strands. Most frequently localised close to the injection site. Very easily detached.
2	More clearly defined fibrous threads connecting different organs or viscera to peritoneum in limited areas. The adhesions are easily detached and organs are intact following detachment.
3	Firm adhesions connecting some or several organs. Viscera may be firmly attached to the parietal peritoneum, but detachment during autopsy does not cause damage to the different organs or peritoneum/muscle tissue. May form a grayish, fibrous film covering organs. Swim bladder may be attached to the viscera.
4	Similar to score 3 but more pronounced adhesions in and around organs. Interconnecting organs referred to as an "organ package" may occur, where the organs appear as one unit, bound together by fibrous connective tissue. Smaller granulomas may be present in or around the organs. Separation of organs attached via fibrous connective tissue will result in organ damage. Viscera cannot be detached from the parietal peritoneum without damaging it.
5	Extensive lesions affecting several organs in the abdominal cavity. In large areas, the peritoneum is thickened and opaque. Larger granulomas in viscera, together with extensive bindings between viscera and peritoneum. The peritoneum and fillet/muscle is damaged when removing the viscera. The side effects are unacceptable with regard to welfare.
6	Even more pronounced than 5. Viscera cannot be removed without severe damage to the muscle fillet. The side effects are unacceptable with regard to welfare.

### Definition of the localizations of adhesions in the abdominal cavity

Loc.1 (A):	Anterior and anterior-dorsal parts of the abdominal cavity including oesophagus, liver, and anterior parts of the swim bladder.
Loc. 2 (B)	Posterior and posterior-dorsal parts of the abdominal cavity including the hind gut.
Loc. 3 (C)	Ventral region of the abdomen, close to the recommended injection site.

### Melanin scale, viscera

0	No melanin
1	Small amounts. Some faint melanin or small spots affecting small areas of the viscera
2	Moderate amounts on or within one or more organs.
3	Extensive melanin deposits on viscera

### Melanin scale, parietal peritoneum/ muscle

0	No melanin
1	Small amounts. Spot(s) or faint shading affecting small areas. Easy to remove
2	Moderate amounts. The melanin can be manually removed at slaughter without severely damaging the peritoneum. May cause downgrading of final product.
3	Extensive melanin deposits on the peritoneum and into the fillet. Cannot be removed without severely damaging peritoneum/muscle/fillet. Will result in significant downgrading of the final product.

### Ascites / infections

0	None	
1	Local irritation around pyloric area (injection site)	Control vaccination quality, length of needle
2	Inflammation in the abdomen / ascites	Hygiene, secondary inflammation/ infection
3	Inflammation. Large quantity of ascites	Hygiene, secondary inflammation/ infection

### Internal deformities

0	Normal abdominal cavity
1	Deformities, lack of or misplaced organs, lack of pancreas tissue (IPNV infected)

### Feed in intestine

0	Empty stomach, some amounts of feed can be seen in the hind gut
1	Stomach and intestine is filled or partly filled with feed

### Tapeworm

0	Absent	
1	Present	May be used to indicate weight loss due to tape worms

## Conclusion

### External deviations

0	Acceptable, only minor deviations.
1	Unacceptable. The individual should be eliminated from the fish stock

### Internal deviations

0	Acceptable
1	Unacceptable. Adverse vaccine reactions, inflammation or tape worms (should be commented on)

# Evaluation form hatcheries

# PHARMAQ

Company:		Fish group:		Vaccine/batch:		County / Year class / Generation:		Date:																						
From/to tank:		Date of vaccination:		Temp. vacc.:		Needle diam/length:		Spec/strain:																						
Starv. before vacc:		Light regime:		No. fish vaccinated:		Vaccination method:		Anaesthesia:																						
Examined by:		Temperature:		°C days post vacc.:		Expected sea transfer:		Customer:																						
Fish no.	Weight (g)	Length (cm)		Cat.		Gill		Fins	Sores	Ext. Anom.	Smolt	Length dir.	Side ways	Inj. site QC	Vacc. res.	Adhesions (0-6)			Melanin (0-3)	Ascites/ inflam.	Int. anom	Feed in intestine	Tape-worm	Conclusion		Comments				
		L	R	L	R	L	R									1	2	3						Org.	Peri.		0/1	Ext.	Int.	
1												-2/-1/0/1/2		(0-2)	(0-3)	T														
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
19																														
20																														
21																														
22																														
23																														
24																														
25																														
26																														
27																														
28																														
29																														
30																														



**Optimum injection site**

Lengthways: Posterior limit: 3/4 pelvic fin length forward from the anterior end of the pelvic fin basis.

Slightly more forward in rainbow trout.

Optimum front limit: maximum 10 mm in front of anterior end of gristle plates of pelvic fins, irrespective of fish size.

Acceptable front limit: rear end of pectoral fins.

Sideways: Injection site should be nearer mid line than edge of "belly".

		Inaccurate injection, too far left	Acceptable, to the left of the mid line	In mid line	Acceptable, to the right of the mid line	Inaccurate injection, too far right
		-2	-1	0	1	2
Inaccurate injection, too far from pelvic fin basis	2					
Not optimum, but accepted	1					
Optimum	0					
Not optimum, but accepted	-1					
Inaccurate injection, too close to pelvic fin basis	-2					

With rip:
Without visible mark:

		Inaccurate injection, too far left	Acceptable, to the left of the mid line	In mid line	Acceptable, to the right of the mid line	Inaccurate injection, too far right
		-2	-1	0	1	2
Inaccurate injection, too far from pelvic fin basis	2					
Not optimum, but accepted	1					
Optimum	0					
Not optimum, but accepted	-1					
Inaccurate injection, too close to pelvic fin basis	-2					

With rip:
Without visible mark: