

Case No:	2023-0157	Date of visit:	20/04/2023			
Time spent on site:	5 hours	Main Inspector:				
Site No:	FS0268	Site Name:	Tervine			
Business No:	FB0456	Business Name:	Dawnfresh Farming Ltd			
Case Types:	1 ECI	2 VMD	3 CNI	4 DIA	5	6
Water Temp (°C):	8.2	Thermometer No:	T147	FHI 045 completed		
Observations:	Region:	ST	Water type:	F	CoGP	MA
Dead/weak/abnormally behaving fish present?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="checkbox"/>					

UNI/REG only - if unable to carry out intended visit detail reason below:

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Additional Case Information:

Harvest permissions; dead harvest to Loch Duart, Blar Mhor and South Shian - only use Loch Duart. Automatic stunners. Harvest at 3.5kg.

Mort disposal permissions sealed skips by Billy Bowie to Barkip Anaerobic digester. Collected about every 3-4 months last collection 17 March 2023.

No reported mort events

On inspection of site very few moribund fish were observed. One fish observed with exophthalmia but were unable to catch it. Three other moribund were removed for diag examination

peak- mort wk 48 2022 - 0.5% attributed to lightning strike. Large end of fish size.

last treatment 13/7/22 formalin cage G3 - costia and cardonella.

Input planned for today from Kinnaird Mill @300g.

Morts wk12 0.09% background 275 fish, wk13 0.07% background 224 fish. Wk14 0.09% background 275 fish, wk15 0.11% (0.03% transport, 0.06% background) 310 fish

2022 hatch fish range from 850g to 3.2kg.

Health surveillance results from 7/3/23 PCR BKD +ve 2/7, RTFS +ve 4/7- no allocated mortality for either. Negative for SAV, IPN, ERM PRV and furunculosis.

Predator control; double panelling at surface, dynema nest and top nets.

Week 48 2022 peak in morts due to lightning strike 5 pens mainly effected; B13 482 morts (9769 fish in pen), A2 189 morts (22096 fish in pen), B12 188 morts (14874 fish in pen), B3 150 morts (7647 fish in pen), B9 135 morts (13286 fish in pen). - site not above reporting threshold. Red marks observed on the flank of dead fish. Strike also observed 20/6/17 when 12% morts were observed. Lightning rods were installed in 2019.

Accompanied by [REDACTED]. Paperwork and diag sampling by [REDACTED], VMD sampling by [REDACTED]

Case No: 2023-0157

Site No: FS0268

Date of Visit: 20/04/2023

Inspector(s):

Registration/Authorisation Details

1. Business/site details summary checked by site representative?
2. Changes made to details?

Y
Y

Site Details (include cleaner fish for all sections)

Total No facilities	28	Facilities stocked	25	No facilities inspected	25
Species	RTR	RTR			
Age group	2023	2022			
No Fish	20,178	266,663			
Mean Fish Wt	500g	1.69kg			
Next Fallow Date (Site)	no		Next Input Date (Site)	today kinnaird	
Recent (last 4 wks) disease problems?			N	Any escapes (since last visit)?	N
If yes, detail:					

Movement Records

1. Movement records available for inspection?
2. Date of last inspection:
3. Are records complete and correctly entered?
4. Are movement records available for dead fish and waste?
5. Are records complete and correctly entered?
6. Are health certificates for introductions (outwith GB) available?

Y
26.11.2020
Y
Y
Y
N/A

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?
- If yes, is there a system in place for maintenance of transportation records?

N

Mortality Records

1. Mortality records available for inspection?
 2. How are mortalities disposed of?
- If other detail:
3. Mortality records complete and correctly entered?
 4. Recent mortality (last 4 wks):
 5. Evidence of recent increased/atypical mortalities?
- If yes, facility nos/no mortality per facility/no stock per facility/reason:

Biogas - Barkip

6. Any other peaks in mortality during period checked?

If yes, detail: lightning strike see additional info

7. Have increased (unexplained) mortalities been reported to vet or FHI?

If yes, detail action:

8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

Y
Y
N
Y
N/A
N/A

Treatments and Medicines Records

1. Recent treatments (see comment)?

N

If yes, detail:

If other, detail:

2. Medicines records available for inspection?

Y

3. Are records complete and correctly entered?

Y

4. Are fish in a withdrawal period?

N

5. If yes, what treatment(s)?

If other, detail:

6. Are medicines stored appropriately?

Y

Biosecurity Records

1. Biosecurity records available for inspection?

Y

2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?

Y

3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased (unexplained)* mortality at the site been included?

Y

4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?

Y

5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?

Y

6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?

Y

7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?

Y

8. Have the biosecurity procedures been adequately implemented on site?

Y

If no, detail:

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?

Y

2. If yes, are results available for inspection?

Y

3. Any significant results?

Y

If yes, detail (if not detailed under recent disease problems).

BKD and RTFS - see additional info

Records checked between:

26.11.20- 20.4.23

Case no: Site No: Date of visit/
Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No	F1	F2	F3									
Fish nos	1	2	3	4								
Pool Group	P1	P2	P3									
Species	RTR	RTR	RTR	RTR								
Average weight	500g	500g	500g	500g								
Sex	N/A	N/A	N/A	N/A								
Water Type	FW	FW	FW	FW								
Stock Details												
Stock Origin	Kinnaid	Kinnaid	Kinnaid	Frandy								
Facility No	A1	A3	G1	A4								

04/2023 Additional Sample Information:

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3 Total Tests assigned **4**

[illegible]

Method of killing: Anaesthetic

Sheet Relevant: ☒[illegible]

Date of visit: 20/04/2023

Fish Number									
Time sampled after death (if > 45 minutes)									
External Signs									
Behaviour	Moribund								
	Lethargic								
	Hanging vertical								
	Spiralling								
	Flashing								
	Loss of equilibrium								
Body	Dark								
	Distended abdomen								
	Anorexic								
	Scale Oedema								
Opercula	Shortened								
	Flared								
Haemorrhaging	Throat								
	Ventrum								
	Base of fins								
	Elsewhere								
Eyes	Exophthalmic								
	Enophthalmic (sunken)								
	Cataract								
	Haemorrhagic								
Gills	Pale								
	Zoned								
	Necrotic								
Lesions	Flank								
	Elsewhere								
Vent	Inflamed								
	Trailing faeces								
Lice Load	Estimate numbers								
Internal Signs									
Ascites	Clear								
	Bloody								
Oedema	In tissues								
Heart	Pale/anaemic								
	Granulomas								
	Deformed								
Liver	Petechial haem								
	Gross haem								
	Tissue breakdown								
	Enlarged								
	Colour number(s)								
	Granulomas								
	Lesions								
Pyloric caeca	Petechial haem								
	Tubules mauve								
	Lack of fat								
Spleen	Enlarged								
	Granulomas								
Gut	No food present								
	Yellow pseudo-faeces								
	External haem								
	Internal haem								
Body wall	Haemorrhaging								
Swim bladder	Haemorrhaging								
	Fluid filled								
Kidney	Swollen								
	Grey								
	Granular								
	Liquefied								
General	Parasites present								
	Anaemia								

Additional comments:

Fish 1 - haemorrhaging on fins and enlarged heart. Fish 2 large fluid filled "furuncle" on the flank over lateral line. Smaller "abrasion" lesions further down the flank. Fish 3- enlarged gall bladder.

Case Number:	2023-0157	Site No:	FS0268	Insp:	
Date of Visit	20/04/2023	No of movements/supp./dest.			Score
Live fish movements		0	1-5	6-10	>10
Movements on (from out with GB) of susceptible species	Frequency of movements on from equivalent MS	0	5	10	14
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26
	Number of suppliers	0	5	10	14
Movements off	Frequency of movements off	0	3	6	10
	Number of destinations	0	3	6	10
Exposure via water	Site contacts	0	1-5	6-10	
Water contacts with other farms (holding species susceptible to same diseases)	Farm is protected (secure water supply through disinfection or borehole)	0			
	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2	4	2
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3	6	
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4	8	
Management practices		None	Secure	Unsecure	
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2	0
On farm processing within the rules of the directive	No on farm processing	0			
	Processing own fish (re-cycling risk)	1			1
	Processing fish from MS of equivalent status	2			
	Processing fish from zone or compartment of equivalent status	4			
	Processing fish from Category III farm	8			
	Processing fish from Category V farm	10			
Disposal of fish and fish by-products	Site's own waste only processed.	0			0
	Common processes with other farms	3			
	Collection point for waste from other farms	5			
Use of unpasteurised feeds	No feeding of unpasteurised feed	0			0
	Feeding unpasteurised feed	5			
Biosecurity	Number of sites	1	2 or 3	≥ 4	
Contacts with other sites	Sites operating from single shorebase	0	1	2	0
	Sites sharing staff and equipment	0	1	2	1
Disinfection of equipment between sites, use of footbaths etc	Yes	0			0
	No	1			
CoGP/Regulator					
Practices in accordance with regulator or industry code of practice	Yes	0			0
	No	3			
Platform access to cages	Yes	0			0
	No	2			
Total Rank					4
					LOW

Case No:

2023-0157

Site No:

FS0268

Sea Lice Inspection (Seawater Sites Only)

1. Has the site experienced sea lice problems in the previous 4 years? ☐
 2. Is the CoGP Farm Management Area (or equivalent) fallowed synchronously on a single year class basis? ☐
 3. Does the site have access to a range of licenced in-feed and bath sea lice medications (including deltamethrin, azamethiphos and emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time? ☐
 4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)? ☐
 5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6) ☐
 6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6) ☐
 7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6) ☐
 8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above (prior to w/b 10/6/19) or 2 or above (from w/b 10/6/19) during the period that records are inspected? ☐
- If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.
9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50) ☐
 10. Have therapeutic treatments been administered or other actions taken when *L. salmonis* levels have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51) ☐
 11. Has any other action been taken (where applicable)? ☐
 12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded? ☐
 13. Are treatments, where conducted, carried out in cooperation between participating farms? ☐
 14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice? ☐
 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation? ☐
 16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons. ☐

Containment Inspection

1. Has the site experienced equipment damage due to predators in the current or previous production cycles? ☐ N
2. Are measures in place to mitigate against the predation experienced on site? (Detail below) ☐ Y

see additional info

If other, detail below:

3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection? ☐ N

If Yes proceed with questions 4 – 9. If No skip to question 10

4. Have these been reported to Scottish Ministers? ☐
5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17) ☐
6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17) ☐
7. Were methods (if any) used to recover escapees? If yes give detail ☐

8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18) ☐

9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act) ☐

10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s) ☐ Y

Site No: FS0268
Case No: 2023-0157
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology

Date of visit: 20/04/2023

Inspector: [REDACTED]

[illegible]

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0456	DATE OF VISIT	20/04/2023
SITE No	FS0268	SITE NAME	Tervine
CASE No	20230157	INSPECTOR	

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

All epidemiological units were inspected. Samples were taken for diagnostic purposes. A separate report will be issued detailing the results of these tests.

Records

The surveillance frequency category of the site was assessed as low. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted every third year. The category of the site will be reassessed on a routine basis and updated as required.

The information required for the public record of aquaculture production businesses regarding this site was verified and where necessary updated. The following records were also inspected to ensure that the conditions of authorisation for your Aquaculture Production Business (APB) are being met:

Aquaculture animal and aquaculture animal product movement records were inspected and appeared to be adequately maintained.

Mortality records were inspected and found to be adequately maintained.

No mortality levels exceeding the reporting criteria have been recorded since the last inspection.

Reports detailing the results of animal health surveillance carried out by or on behalf of the business and/or Marine Scotland were available for inspection.

The biosecurity measures plan for the site was inspected and found to be adequately maintained and implemented.

Inspection under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015

Medicine records were inspected and found to be adequately maintained.

Samples were taken to be analysed for veterinary residues.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007 with respect to section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory.

Please contact myself or the duty inspector should you require any further information or have any queries regarding this report.

Signed:

A black rectangular box redacting the signature of the Fish Health Inspector.

Fish Health Inspector

Date: 09/05/2023

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at <https://www.gov.scot/publications/fish-health-inspectorate-service-charter/>

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0456	DATE OF VISIT	20/04/2023
SITE No	FS0268	SITE NAME	Tervine
CASE No	20230157	INSPECTOR	

Section 1: Summary

During a routine inspection at Tervine three moribund fish were observed and removed for diagnostic examination.

Histopathology examination revealed ulcerative dermatitis and marked bacterial necrotising myocarditis in F2 consistent with a *Flavobacterium psychrophilum* infection. F3 also displayed features of pancreas degeneration.

Flavobacterium psychrophilum was identified on plates taken from spleen material of 3 fish and lesion of fish 2. The level and purity of growth observed from fish 2 would suggest this bacterium would be implicated in morbidity of this fish.

Please contact myself or the duty inspector should you require any further information, have any queries regarding this report or if any problems develop.

Section 2: Case Detail

Observations

During a routine site inspection three moribund fish were observed at the pen margin. These fish were removed for diagnostic examination. Mortality levels at the site were reported to be low, however previous health surveillance testing had been positive for *Flavobacterium psychrophilum* and *Renibacterium salmoninarum*. The site is covered by movement restrictions for bacterial kidney disease.

Fish 1 displayed haemorrhaging on the fins. Internally, there was a lack of fat on the pyloric caeca, enlarged spleen and no food in the gut. Fish 2 had pale gills and a very large fluid filled flank lesion about the size of half a golf ball as well as abrasive type lesions nearer the tail. Internally, there was bloody ascites, a pale heart, an enlarged spleen and no food in the gut. Fish 3 exhibited a spiralling motion in the water. Internally, the spleen and gall bladder were enlarged.

Samples

Samples were collected from three fish according to the table below:

Fish number	Facility number	Species	Stage	Origin
1	A1	Rainbow trout	500g	Kinnaird Mill
2	A3	Rainbow trout	500g	Kinnaird Mill
3	G1	Rainbow trout	500g	Kinnaird Mill

Results

Bacteriology: Kidney, spleen and lesion material from three fish were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated and confirmed by PCR;

- *Flavobacterium psychrophilum*: F1 – F3 (Spleen), F2 (Lesion)

From the tests conducted, we have evidence which may indicate some resistance to sulphamethoxazole/trimethoprim. We do not have evidence of resistance to amoxycillin, oxytetracycline or florfenicol.

Virology: Tissue samples were tested for segments of nucleic acid indicative of the presence of the pathogens specified below using real-time PCR (qPCR).

All three fish tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), salmonid alphavirus (SAV) and viral haemorrhagic septicemia virus (VHSV). Fish two and three were tested for piscine myocarditis virus (PMCV) and piscine reovirus (PRV). Both of these tests were also negative.

Parasitology: Fins were collected to determine the presence of *Gyrodactylus salaris* using light microscopy.

No *G. salaris* parasites were detected in the samples examined.

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from three fish. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Lamellar hyperplasia with necrosis and haemorrhage on the hyperplastic plaques, mild, multifocal (F1 & F2). Occasional ciliates observed among gill filament (F1-F3).

Skin & Muscle: Dermatitis with areas of neutrophil-like infiltration, mild, multifocal; myositis with haemorrhage with few Gram-negative bacteria, mild, multifocal (F2).

Heart: Marked bacterial necrotising myocarditis (F2). Very mild fibre degeneration observed in the atrium chamber (F3). Mild epicarditis (F2, F3).

Gut and pyloric caeca: Within the normal range.

Pancreas: Moderate vacuolation of the pancreatic acinar tissue (F3).

Liver: Very minimal hepatocellular necrosis (F3), some cuffing (F1), hepatocellular vacuolation (macroviscules), mild, diffuse (F2, F3).

Kidney: Reduction of interstitial cell (haemopoietic) with circulating leucocytes within the sinusoidal space (F1-F3). Several renal tubules displayed hyaline droplets.

Spleen: Slightly congested (F1).

Signed:



Fish Health Inspector

Date: 18/05/2023

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at <https://www.gov.scot/publications/fish-health-inspectorate-service-charter/>



Fish 3



Fish 2



Fish 2



Fish 1



