

ORNAMENTAL FISH NEWSLETTER



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Australia amends health certification for import of Goldfish
- **TRADE NEWS**
Local retail sales of imported Dragon fish
- **AQUATIC ANIMAL HEALTH**
Current aquatic animal diseases under AVA's surveillance
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Challenges posed by Koi herpesvirus (KHV)

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Current aquatic animal diseases under AVA's surveillance

AVA has in place aquatic animal disease surveillance programmes for ornamental fish in Singapore. The surveillance programmes cover diseases which include OIE-notifiable diseases and emerging new diseases that may be of concern to the trade industry.

Disease surveillance requirements are often subject to change depending on risk assessments conducted by AVA and/or the requirements set out by importing countries. In order to maintain the disease-free status of Singapore and to safeguard the ornamental fish trade, follow-up actions taken by AVA after a positive detection are in line with international standards.

In addition to routine samples collected, diseased or sick fish observed during inspection visits will also be collected for testing. This ensures that only healthy fish are exported out from Singapore. Data collected from the surveillance programmes is useful in identifying disease trends and risks which will aid in the review of AVA's surveillance programmes.

“Regulatory actions and measures taken by AVA in response to positive detection of disease will ensure that disease is not spread to other local ornamental fish establishments and also to maintain Singapore’s disease freedom status to avoid disruption to the export trade.”

Regulatory actions and measures taken by AVA in response to positive detection of disease will ensure that disease is not spread to other local ornamental fish establishments and also to maintain Singapore's disease freedom status to avoid disruption to the export trade.



An AVA officer inspecting a bag of ornamental fish during disease surveillance.

(Source of photo: AVA)

In an increasingly competitive market for ornamental fish worldwide, it is important that Singapore maintains a reputation for having exporters that export high quality products and also a competent authority which is able to guarantee that there are controls in place ensuring that the importing countries' requirements are adhered to.

Table I provides an overview of the ornamental aquatic animal diseases under AVA's surveillance. It includes the possible impact to the industry if there is any detection, and AVA's follow-up actions.



An AVA officer inspecting biosecurity measures (e.g., footbath above) at a licensed ornamental fish importer's premises during disease surveillance. (Source of photo: AVA)

Table 1: Overview of AVA Aquatic Animal Disease Surveillance

Disease monitored	Surveillance purpose	Frequency of sampling	Countries to which export may be affected	Measures by AVA
<ul style="list-style-type: none"> • Epizootic Haematopoietic Necrosis Virus (EHNV) • Infectious Pancreatic Necrosis Virus (IPNV) • Infectious Haematopoietic Necrosis Virus (IHNV) • Viral Haemorrhagic Septicaemia Virus (VHSV) 	OIE-notifiable disease; For Trade purposes	Twice a year	EU, Taiwan (only for food fish), South Africa, Malaysia, Thailand, Sri Lanka	<ol style="list-style-type: none"> 1. Destruction of affected stock. 2. Isolation order pending further investigation of other susceptible species. 3. <u>If detection is in stock that is outside the quarantine area,</u> there will be a 2-year suspension for sale of susceptible species to countries requiring the disease freedom. 4. Lifting of suspension: Premise will be subjected to a minimum of twice a year sampling for the particular disease & suspension lifted after 2 consecutive years of negative results.
• Epizootic Ulcerative Syndrome (EUS)	OIE- notifiable disease; Possible EU requirements (Council Directive 2006/88/EC)	Visual surveillance for clinical signs. Diseased or sick fish will be sampled. -Refer to list given by AVA for health certification requirements. * Final list of susceptible species is still being deliberated by the international scientific community.	EU (after 31 Dec 2012), Malaysia, Taiwan, Sri Lanka	
• Spring Viraemia of Carp (SVCV)	OIE- notifiable disease; For trade purposes	Twice a year for each goldfish/ koi supply source	US, South Africa, Malaysia, Thailand, Japan, Israel, Taiwan, Sri Lanka, Hungary, Denmark, Finland, Ireland, Sweden & UK	
• Koi Herpes Virus (KHV)	OIE- notifiable disease; For trade purposes	Every import consignment of koi carp	Malaysia, Thailand, Sri Lanka, Hungary, Germany (only region of Saxony), Ireland & UK	
• White Spot Syndrome Virus (WSSV)	OIE- notifiable disease	Twice a year per establishment which houses any marine/ freshwater crustacean	Malaysia, Thailand, Taiwan, Germany (compartment Garnelenhof Schäfer), India (only for food shrimps)	

<ul style="list-style-type: none"> <i>Aeromonas Salmonicida</i> 	<p>For trade purposes to Australia</p>	<p>Goldfish imports for premises exporting goldfish to Australia – Frequency depends on volume of import & on source suppliers</p> <p><i>*Note that 60 pcs of fish will be sampled (5% prevalence) for <i>Aeromonas salmonicida</i> testing as required by Australia.</i></p>	<p>Australia, Malaysia</p>	<ol style="list-style-type: none"> 1. Destruction of affected stock. 2. <u>If detection is in stock that is outside the quarantine area,</u> there will be a 2-year suspension for sale of susceptible species to countries requiring the disease freedom. 3. Lifting of suspension: Premise will be subjected to a minimum of twice a year sampling for the particular disease & suspension lifted after 2 consecutive years of negative results
<ul style="list-style-type: none"> Infectious Spleen & Kidney Necrosis Virus (ISKNV) 	<p>Emerging disease of concern to Australia (Biosecurity Australia's Risk Import analysis)</p>	<p>Diseased and random selection of susceptible species i.e. Gouramis, Poeciliids & Cichlids</p>	<p>Possibly Australia, Thailand, Taiwan</p>	<ol style="list-style-type: none"> 1. No compulsory destruction at the moment. 2. Exporters are advised not to export affected batch to Australia.



Helpful References: OIE Aquatic manual (<http://www.oie.int/international-standard-setting/aquatic-manual/access-online>)

*GFHNV surveillance have been ceased from September 2011 as Australia has stated that it is no longer necessary for Goldfish exported to their country to be certified free of the disease.

Susceptible species to EUS, such as Dwarf gourami (*Colisa lalia*) on the left are inspected for clinical signs (e.g., reddening on body of fish, skin ulceration, loss of scales, dropsy etc.) during surveillance. If clinical signs are present, fish will be sampled by AVA. (Source of photo: [source: http://en.wikipedia.org/wiki/Gourami](http://en.wikipedia.org/wiki/Gourami).)

EU's Longstanding Ban for Import of Red-Ear Sliders (*Trachemys scripta elegans*) and Suppliers' Responsibilities

Red-Ear Sliders (*Trachemys scripta elegans*) are one of the most popular pet turtles in many parts of the world. Native to the southern United States, they are easily recognisable by the distinctive red mark around their ears.

In the 1990s, popularity of keeping these turtles as pets soared due to the hit

cartoon series Teenage Mutant Ninja Turtles, in part due to their small size, cheap costs and widespread availability. However, many were soon released into the wild because of the size in which they could grow to, resulting in the loss of equilibrium in many ecosystems.

Red-ear sliders are able to survive in many of the locations they have been



Red-eared sliders derive their name from the distinctive red patch of skin on two sides of their head. (Source of photo: AVA)



Red-ear sliders are commonly available in most aquarium or pet shops in Singapore. They are commonly sold, often at a low price, as cute juveniles. (Source of photo: http://en.wikipedia.org/wiki/Red-eared_slider)

“Many are however released into natural environments or waterways when they grow too large for the unprepared hobbyist.”

introduced in, bringing about many ecological problems to the host environment, such as preying on or outcompeting native species, or increasing the risk of introducing exotic diseases to local species. Countries in which they have been successfully introduced include Australia, Brazil, South Africa and Spain. In 2000, the red ear slider was listed as one of the “100 of the world’s worst invasive alien species from the Global Invasive Species Database”.

As such, red-ear slider imports into the European Union have been banned with effect from 1997 under Council Regulation (EC) No. 388/97 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1997:061:0001:0069:EN:PDF>). Traders are reminded not to send this species to your consignees in EU member countries. Do note that shipments containing this species may result in the species, or even the entire consignment, being detained upon arrival at the EU border inspection post and may be subjected to further testing, denied entry and returned or destroyed on the spot.

Other countries that have also banned imports of red-ear sliders include Israel, the Republic of Korea, New Zealand and Taiwan. Please note however that this list is not exhaustive. You are therefore advised to check with your consignees for regulations and requirements that the importing country’s competent authority may have regarding this species before export.

Red-Ear Sliders in Singapore

Red-ear sliders are commonly available in most aquarium or pet shops locally. They are commonly sold, often at a low price, as cute juveniles. Many are however released into natural

environments or waterways when they grow too large for the unprepared hobbyist. Some are also purchased for “mercy release” for religious purposes with kind intentions to release these animals back into the wild. Today, many of the terrapins spotted in natural habitats in Singapore are red-ear sliders.

However, such releases negatively affect the local environment and biodiversity. These non-native red-ear sliders can not only outcompete local species for same food sources, they may also prey on local species of fish and molluscs, as well as introduce exotic diseases that may affect our local species. This also further threatens the existence of local species that are already endangered. All of these would disrupt the balance of the ecosystem.

To increase public awareness about the effects of such releases on the environment, AVA, together with NParks, PUB, Nature Society (Singapore), students from different schools as well as volunteer groups conduct various educational and outreach activities. Importers are encouraged to also contribute to this cause when distributing or selling these red-ear sliders by reminding buyers about the responsibilities involved in these purchases, as well as not to release these animals into the wild.

References:

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Australia amends health certification for import of Goldfish into their country



Goldfish exports to Australia need health certificates .

(Source of photo: <http://en.wikipedia.org/wiki/Goldfish>)

The AVA has recently informed ornamental fish exporters on the change in health certification for import of goldfish into Australia. Starting 1 September 2011, new certificate to accompany exports of goldfish to Australia will apply, which does not require AVA to certify freedom for the disease goldfish haematopoietic necrosis virus (GFHNV). The other conditions remain unchanged.

All exporters exporting goldfish to

Australia should start using the new certification with immediate effect. However, during the transitional period, the competent authorities in Australia have notified AVA that their officers at ports of entry would accept the existing format of certification for a short period. AVA will continue its existing sampling programme for all exporters that export to Australia (bi-annual sampling for a minimum of 60 goldfish at export premises) to meet Australia’s certification requirements for diseases Spring viraemia of carp virus (SVCV) and *Aeromonas salmonicida*. If AVA officers find any diseased or moribund fish during their inspection visits, they will take additional samples for further laboratory examination.

“Starting 1 September 2011, new certificate to accompany exports of goldfish to Australia will apply, which does not require AVA to certify freedom for the disease goldfish haematopoietic necrosis virus (GFHNV).”

Updated New Zealand Import Health Standard for Ornamental Fish and Marine Invertebrates from All Countries (with effect from 20 April 2011)

The Ministry of Agriculture and Forestry (MAF) New Zealand has published an updated version of their Import Health Standard for Ornamental Fish and Marine Invertebrates from all countries. The import standards that come into effect in April 2011 include the following requirements:

- ⇒ It is the importer’s responsibility to ensure that they are compliant with the current relevant import health standard at the time of importation. This includes obtaining a permit to import prior to proceeding with importation.
- ⇒ Types of documents required to accompany the consignment (e.g., an import permit from New Zealand, a list of the scientific genus and species, number and origin of the ornamental fish and marine invertebrates in each container and CITES permit for an endangered species. Export health certificate is currently not required).
- ⇒ Updated species list eligible for import into New Zealand (refer to appendix 2 of the import health standards).

⇒ Categorisation of high and low risk species and the resulting risk management options after import for each category. These include the following:

- ◆ Ornamental fish and marine invertebrates from Appendix 2 must be held in the facility named in the permit to import for a quarantine period of not less than four weeks in the case of freshwater fish, and not less than three weeks in the case of marine fish and marine invertebrates.
- ◆ Ornamental fish and marine invertebrates from Appendix 1, identified as ‘high risk’ species, must meet additional pre-quarantine or quarantine measures before clearance. For species that are exported from tropical climates such as Singapore, the following measures will apply:
 - Species susceptible to iridoviruses:- Investigation of batches displaying clinical signs of septicaemia or sudden unexplained mortality.



Quarantine of imported ornamental fish is an important biosecurity measure.

(Source of photo: AVA)



Poecilidae such as Molly (Poecilia latipinna) are classified as high risk species.

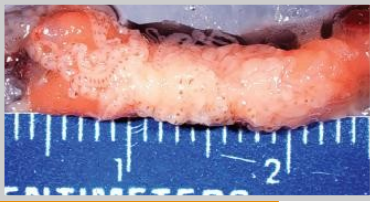
(Source of photo: AVA)



Platy are considered as high risk species affected by iridoviruses. (Source of photo: AVA)

Invertebrates can be found at: <http://www.biosecurity.govt.nz/ihs/search>. Exporters are advised to check with their importers in New Zealand on the requirements for species to be exported before commencing any shipment.

Exporters should note that only species of ornamental fish and marine invertebrates listed in Appendix 2 of the import health standard are allowed for import into their country. Live rock is not eligible for importation into New Zealand. Live rock is dead coral that has plant and/or animal life growing on it. Dead coral rock (rock containing organic matter, often dead coral) is not eligible under this import health standard but may be imported under the Import Health Standard for Soil, Rock, Gravel, Sand, Clay, Peat and Water From any Country: <http://www.biosecurity.govt.nz/imports/nonorganic/standards/bmg-std-sowtr.htm>.



Intestine of a fish (bonytail chub) infected with tapeworms. (Source of photo: http://www.nwhc.usgs.gov/publications/fact_sheets/pdfs/FishTapeworm.pdf)

- Species susceptible to Epizootic Ulcerative Syndrome (EUS):- Quarantine for 4 weeks with investigation of batches displaying clinical signs of ulcerated or congested skin lesions.
- Species affected by Asian tapeworm (*Bothriocephalus acheilognathi*):- Treatment with praziquantel at ≥ 1 mg/L for 24 hrs or ≥ 4 mg/L for 12 hours to be completed 96 hrs before biosecurity clearance; or 40mg/kg fenbendazole orally on two occasions 4 days apart before biosecurity clearance.

A copy of the Import Health Standard for Ornamental Fish and Marine

“With the change, all imported Dragon fish are allowed for local retail sale as well as re-export (with CITES re-export permits).”

Local retail sales of imported Dragon fish

On 4 April 2011, AVA facilitated trade by allowing licensed ornamental fish importers to import Dragon fish (or Asian Arowana) for supply to licensed aquarium fish shops that are approved for the sale and display of Dragon fish. Previously, a licensee can only import Dragon fish for re-export purposes. The only exception was given to licensed importer who has a breeding farm registered with the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) to breed the Dragon fish in captivity for commercial purpose.

With the change, all imported Dragon fish are allowed for local retail sale as well as re-export (with CITES re-export permits). However, licensed importers must continue to adhere to the following conditions for import of Dragon fish into Singapore:

- Dragon fish must only be imported from CITES-registered Dragon fish captive-breeding operations.
- Dragon fish must be implanted with microchips prior to import.
- All shipments must be

accompanied by proper CITES export permits and tag list and CITES import permits from AVA.

- For local sales, to issue Letter of Transfer.
- To allow for traceability of the fish, importers must keep proper documentation of all transactions from the point of import to the sale of the fish.

Other conditions for the import and export of Dragon fish, e.g., requirements for packaging etc., remain the same and can be found on AVA website below.

Import/export conditions for Dragon fish:
<http://www.ava.gov.sg/AnimalsPetSector/ImportExportTransOfAnimalRelatedPrd/OrnamentalFish/ImportandexportDragonFish.htm>

Licensed retail pet shops selling fancy fish who wish to display & sell tagged and certified Dragon fish must apply to AVA for a "Letter of Approval" before they are allowed to display & sell Dragon fish. The applicant must meet the following conditions:

- The applicant must have a retail pet shop licence from AVA to sell fancy fish.
- The applicant must possess a scanner suitable for reading the microchips of Dragon fish on sale.
- Aquarium tanks must be suitable for displaying Dragon fish.
- Aeration system and freshwater supply must be adequate.
- Displays of Dragon fish and other animals must be at least 1 m apart.
- Bird / animal cages must not be hung / placed above the display tanks of Dragon fish.
- All Dragon fish tanks must be covered with appropriate lids.

AVA's website:

<http://www.ava.gov.sg/AnimalsPetSector/SalesOfPetsOwnershipExhib/DisplaySaleOfDragonFish>



Red Dragon fish
(Source of photo: AVA)

Other matters relating to the display and sale of Dragon fish can be found from the following

Challenges posed by Koi herpesvirus (KHV)

Koi herpesvirus (KHV), a contagious pathogen causing a highly virulent disease in ornamental koi and common carp, was discovered more than a decade ago, and has been held responsible for mass mortalities in these fish worldwide. The initial focus of KHV research has been on locating live virus in infected fish. Difficulties in isolating the virus on cell lines led to the development of conventional and then real-time polymerase chain reaction (PCR) for the detection of viral antigen in fish (Gilad *et al.* 2004). The latter has been hailed as the silver bullet for KHV diagnostics as it could detect as little as 5 KHV genomic copies in sampled organs, compared to the 100 – 1000 KHV genomic copies required for detection by conventional PCR.

More recent research has shown a latent or carrier state for KHV, which poses the largest risk to the ornamental koi industry. Yuasa *et al.* (2007) proved that KHV DNA could still be detected from the brain of experimentally challenged common carp from 3 months to 1 year, while none could be detected

in all other organs. While the molecular diagnostic methods described above are highly sensitive, there are limitations to their use for the detection of KHV latently infected koi. Pooling organs from as little as two koi can result in latently infected koi going undetected due to dilution of the viral antigen in a large sample volume (Bergmann *et al.* 2010). Holding koi at permissive water temperatures before testing would help increase copy numbers of the virus and improve detection rates (Gilad *et al.* 2003; Yuasa *et al.* 2008), but is not an option in the ornamental fish trade, where test results are required in a short time. This will have significant impacts on the surveillance methods currently used for KHV.

Serology based tests like Enzyme linked immunosorbent assays (ELISA) are widely used for the screening of viruses in humans and animals, but have been rarely used in fish due to the dependence of their immune response on environmental temperature (LaPatra 1996). Koi experimentally infected with wild type KHV have been shown to mount an increasing

“More recent research has shown a latent or carrier state for KHV, which poses the largest risk to the ornamental koi industry.”



‘Skinny’ fingerling with ‘pin head’ appearance.

(Source of photo: Dr Diana Chee, AVA, 2006)



Koi

(Source of photo: http://en.wikipedia.org/wiki/File:Six_koi.jpg)



White spots in carapace of diseased shrimp in White spot disease (WSD) (Source of photo: Prof. James Turnbull BVM&S, MSc, PhD, FHEA, MRCVS)

antibody response between 7 – 14 days, and gave higher titres than uninfected control koi up to 72 days post-infection when the trial ended (Perelberg *et al.* 2008). A major advantage is that koi do not have to be sacrificed for the test, as all that is required is a 3 – 5 mL blood sample. This will allow the testing of valuable broodstock and prized ornamental koi. By screening koi in this manner, one can determine if the source farms has been exposed to KHV in the past.

While much remains uncertain about the behaviour of KHV, it is ever more important to source ornamental koi from clean, undiseased stock. A healthy

looking koi can still be a carrier that goes undetected by current diagnostic methods, so knowing the history of the farm and the koi that you purchase will give you better assurance of their stock.

Koi from different sources must be kept in separate tank systems, with different sets of nets used for each. Visitors must walk through disinfectant soaked mats at the entrance and exit of each section and ideally, footwear should be provided by the farm. The cost of such prevention methods is relatively low compared to the loss of income and cost of disease eradication.

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White Spot, Wait, Which One?

By Kevin Erickson

Throughout the aquarium community there are all sorts of common names and abbreviations that we, as ornamental aquarium professionals, take for granted. Red Cap Oranda, Strawberry Shortcake SPS Colony,

WYSIWYG, AVA, KHV, and Pink Skunk Clownfish to name a few examples. Many times, either because we do not know better or because they look similar, we will call many fish, inverts, diseases or parasites the same common name, even

though, to the trained eye, they are actually very distinct and different from one another. This can be very confusing and much disinformation can come of it.

An Example:

In the past, and even more so now as a Masters student studying *I. multifiliis*, I have seen *Cryptocaryon irritans*, a salt water ciliated parasite being called “Ich” or “White Spot”. This is somewhat understandable since the visible, on host life stage of *C. irritans* is white, just like *I. multifiliis*. The worst offenders are often those who only know *Cryptocaryon irritans* as “Ich” or “White Spot” and when, in the passing chance, they need scientific name of “Ich” or “White Spot”, they Google it just to find the scientific name *Ichthyophthirius multifiliis*, which is the scientific name for the freshwater ciliated parasite. They then go on and spread the disinformation without knowledge that they are incorrect. This is an unfortunate situation and can be self perpetuating.

Even more confusing is when results are returned for White Spot Disease (WSD), White Spot Syndrome Virus (WSSV), White Spot Syndrome (WSS), White Spot Baculovirus (WSBV) or Bacterial White Spot Syndrome (BWSS). These diseases of crustaceans could all be quite overwhelming in an Internet search to the untrained eye and turn hobbyists off from looking for assistance on their fish parasite.

Now, in the electronic age, people are

more likely to turn to the Internet for a quick search rather than a book or peer reviewed research journal. This is unfortunate since anyone can have an opinion on any subject and those with a domain of expertise on a subject are often lost in a sea of opinions. As consumers and creators of digital media, we must employ filters when we search for a treatment for our sick fish, or what to feed or newly hatched fry. Don't always trust the first source you find; continue on, and find other sources from other types of media. Seek advice from those who know most about the subject whether it is a governmental advisory group or a leading fish disease expert. *To help avoid even more confusion, we should always list scientific names when we refer to organisms in any form of communication to not only assist in breaking the current incorrect trends, but to help breach the language barrier.*

This article is contributed by Kevin Erickson who is currently the Director at Large of the Marine Aquarium Societies of North America (MASNA) and pursuing a Master's degree in Aquatic Pathobiology with research focusing on Ichthyophthirius multifiliis life stage modeling at the Institute of Aquaculture at the University of Stirling. Kevin can be contacted through his website: <http://www.kevinperickson.com>



A fish affected by inch (*Ichthyophthirius multifiliis*)

(Source of photo: Dr. Andrew Shinn PhD, University of Stirling.)

“Seek advice from those who know most about the subject whether it is a governmental advisory group or a leading fish disease expert.”

"Joint Study Trip (SAFEA/STAFBA/AVA) to Israel on Ornamental Fish Culture" – an article on the study trip conducted from 18 – 26 Dec 2010 with highlights of major learning points for farmers and exporters

The trade mission on ornamental fish culture and export to Israel was jointly organized by Singapore Aquarium Fish Exporter's Association (SAFEA) and Singapore Tropical Aquarium Fish Breeders' Association (STAFBA) and AVA from 18 – 23 Dec 2010. The Israeli Embassy in Singapore and their Ministry of Agriculture Extension Services, Aquaculture Division helped arranged and facilitated the field visits to 13 fish farms and

research institutions.

Thirteen ornamental fish exporters/breeders participated in the mission. All members of the mission gave good comments to the Israel trip. They were very much impressed by the technological advances of the Israeli ornamental fish and aquaculture industries which the mission members were privileged to



Group Picture at Malka Company Koi Farm at Moshav Hazeva. *(Source of photo: AVA)*

visit during the trip. It was truly an eye-opener for both our farmers and exporters alike. This trip had come at a most appropriate time as some of the exporters are relocating their operations to new premises and building up their facilities. As they learn and apply the knowledge gained from this trip, more can be achieved by further collaborating and networking of the industry players from both countries.



from the study trip for their new farm/export premises to improve quality control and productivity. Other exporters have also indicated that they will incorporate some of these features when they develop their new export premises at Lorong Chencharu.

Major learning points gathered from the trips are:

Strict Biosecurity controls: All the ornamental fish farms visited have enclosed production units, either warehouses or greenhouses, restricted movements of farming area and separate rooms/production areas for different species of fish, separate culture tanks for different age of fish.

Good Disease & Fish Health Management; including; vaccination, antibiotic injection of culture fish and modular system for special fish.

Good culture systems; including water recycle system, feeding systems, auto-feeder, using of high nutrition content feed, etc, and application of solar energy to save electricity consumptions.

Water Recirculation system for Discus culture at Moshav Mishmar. (Source of photo: AVA)

Production Strategies – focus on robustness of species cultured. eg. guppies, kois and goldfish where they have competitive advantage, etc.

High degree of mechanization – All farms use fish graders, sorting belt to select Koi and goldfish. Other equipment including conveyer belt, auto-feeders and chillers for fish holding tanks are also commonly used to save manpower.

As a follow-up, AVA has presented the trip findings at the Ornamental Fish Business Cluster meeting. Some of the participating farms have adopted the technologies gathered



Green House for goldfish culture at Malka Company Goldfish Farm at Moshav Hazeva (Source of photo: AVA)



Final Discussion/meeting at The Israel Export Institute, Tel Aviv (Source of photo: AVA)

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