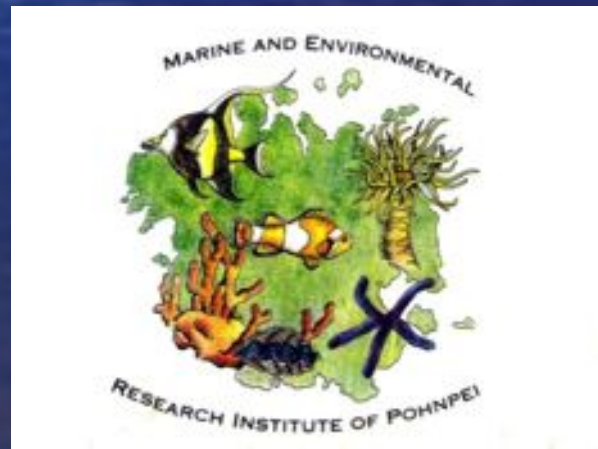


Marketing, Permitting and Shipping for Marine Ornamental Invertebrates



Shipment Process

- Marketing
- Receiving orders and negotiating pricing
- Quote and airline bookings
- Permits
- Packing and shipping
- Payment and DOA

Marketing – finding your customers

- Trade shows
- Website
- Word of mouth
- Direct contact
- Visiting buyers

Marketing

- For marine ornamentals variety is important. Especially if you can sell clams and corals or fish.
- This helps buyers to get volume without holding excess stock
- It also reduces paperwork and inspection and handling fees.

Marketing

- ORA – more than 70 species hard corals. 20 species soft corals. Clams and fish.
- Blue Zoo aquatics. 24 maricultured corals plus 55 SPS, 73 LPS.
- Direct marketing through internet sales is more popular. Petco.

Receiving orders and pricing

- The total a buyer pays is based not only on the cost of your products but also freight, handling, permits, mortality and volume
- The sellers price will be affected by all of these so reducing costs to the buyer is important

Working with a Buyer

- You are separated by large distances often with poor communications
- Insist on pre-payment on all shipments where you can, especially with new buyers
- Spend money to travel and meet your buyers or build your relationship
- Long-term business relationships are the best

Buyers always pay shipping

- Shares liability and responsibility
- Responsibility to get the animal there alive and healthy.
- You need to find the most efficient way to ship products to remain competitive.

Quotes and airline booking

- The buyer may ask for a quote including freight and handling
- Freight is generally expensive out of Micronesia
- Shipping regulations seem to change constantly due to TSA regs
- A box charge is usually added to the shipment cost to include cost of packaging and handling
- A permit fee may also be added for cost of obtaining the permits
- Airline freight varies with volume and how often you ship
- Shippers can get reduced freight rates with volume but cargo can be bumped
- Using freight forwarders such as CTSI, Triple B can help get your products to areas not served by Continental.

Permits and Paperwork

- CITES or in lieu of CITES – required for all hard corals and giant clams. Issued by marine resource authority in each country.
- Invoice – some buyers ask for a pro forma that reflects lower prices in order to avoid duties
- Certificate of origin – often included in in lieu of CITES or export permit
- Health certificate – as above
- Airway Bill – issued by the airline and travels with the shipment
- Other permits such as export permit or permits required by the importing country are sometimes required
- Copies of all permits travel with the AWB and should be scanned and sent to buyer after the shipment has left



FSM National Government
Department of Resources and Development
Division of Agriculture Unit
Palikir, Pohnpei FM 96944
Tel. No.: (691) 370-2646
Fax No.: (691) 370-5854

Plant/Animal Quarantine Permit

FSM Form No.1008

Name and Addressee of Importee:
Martin Selch
Kosrae State, FSM 96944

Permit No.: KSA-002-11
Date of Issue : Feb. 28-11

In accordance with the Plant and Animal Laws (FSM& State), permission is hereby granted for the following importation, subject to the conditions contained herein.

Origin of Material(s):
Pohnpei State, FSM

Destination of Material(s)
Kosrae State, FSM

Descriptions of Materials and Quantity:

Live Corals/Clams:

1. Soft Corals (Sarcophyton spp.) —500pcs
2. Giant Clams (Tritacna maxima) —500pcs
3. Giant Clams (Tritacna derasa) —500pcs
4. Hard Corals (Montipora spp) —500pcs

Conditions of Entry:

-This Permit is valid for a multiple entries or six months from the above date of issue , but may be withdrawn at anytime. A copy of this Permit with a Certificate of Origin issued at the place of origin must accompany the shipment and presented to the Quarantine Inspector at the port of entry.

-The Certificate of Origin should specify that :

-1. Shipment was originated and raised in Pohnpei State , Thoroughly inspected and found to be healthy , clean , free of other living organisms and packed in new packing materials , and the number stated in the Certificate of Origin should match the number shipped or sent.

-A copy of this Permit together with a Certificate of Origin issued by Pohnpei State Government should accompany the shipment and presented to the Quarantine Officer upon arrival here in KSA.

-Shipment should be re-inspected upon arrival to ensure that all condition / requirement in Import Permit are met and / or complied with.

Permit Fee: \$20.00

Permit Issued by: (Name and Title)
Murdanfel T. Acting Director of Resources and Economic Affairs

Approval Date: 3/2/11

Distribution List: Original-Permittee, 1st copy to Shipper, 2nd copy-State Agriculture, 3rd copy-Issuer



DEPARTMENT OF RESOURCES & DEVELOPMENT
 Federated States of Micronesia
 P.O. Box PS-12
 Palikir, Pohnpei FM 96941
 Phone: (691) 320-2646/5133/2620; Fax: (691) 320-5854/2079
 E-mail: fsmrd@fsmrd.fm


1. Exporter MERIP PATS Campus Tamoreth, Pohnpei FM 96941 Federated States of Micronesia Tel. 691-320-7630	2. Importer Marshall Island Mariculture Farm 1 Clam Avenue Makuro, MH 96960 Republic of the Marshall Islands Tel. 692-247-2526	CITES PERMIT		3. Permit No.: PFM12-02-01
		<input type="checkbox"/> IMPORT	<input checked="" type="checkbox"/> EXPORT	4. Date of Issue: 15-Feb-12
		<input type="checkbox"/> RE-EXPORT	5. Valid until: 15-Jul-12	6. Purpose: Commercial
		8. Country of Origin Micronesia - Pohnpei - FSM	9. Permit No.: N/A	10. Date of Issue: N/A
		11. Country of last Re-Export N/A	12. Permit No.: N/A	13. Date of Issue: N/A

7. Special Conditions: For live animals, only valid if the transport conditions comply with the CITES Guidelines for Transport of Live Animals, or in the case of air transport, with IATA Live Animals Regulations. The authorized aforesaid is granted and valid for one shipment only.

1	Scientific Name	QTY	Unit	Source	App.No.
1	Sarcophyton spp	800	pcs.	LIVE / F	2
2	Acropora echinata	80	pcs.	LIVE / F	2
3	Acropora tenuis	200	pcs.	LIVE / F	2
4	Acropora granulosa	150	pcs.	LIVE / F	2
5	Acropora microphallata	20	pcs.	LIVE / F	2
6	Pachylastrea	50	pcs.	LIVE / F	2
7	Moniopora spp.	150	pcs.	LIVE / F	2
8	Zooxanthus spp.	80	pcs.	LIVE / F	2
9	Goniopora spp.	50	pcs.	LIVE / F	2
10	Ceratomyxia spp.	30	pcs.	LIVE / F	2
11	Smilaxia spp.	100	pcs.	LIVE / F	2
12	Tubinaria spp.	30	pcs.	LIVE / F	2
13	Acropora loripes	100	pcs.	LIVE / F	2
14	Euphyllia ancora	150	pcs.	LIVE / F	2
15	Acropora divaricata	100	pcs.	LIVE / F	2
16	Acropora subulata	150	pcs.	LIVE / F	2
17	Cradella spp.	50	pcs.	LIVE / F	2
18	Tridacna maxima	300	pcs.	LIVE / F	2
19	Acropora polystoma	50	pcs.	LIVE / F	2
20	Euphyllia glabrescens	50	pcs.	LIVE / F	2

FOR OFFICIAL USE ONLY

 Management Authority's Official Stamp	I am satisfied that the export/ import of the specimen described herein will not be detrimental to the survival of the species and that the specimen was not obtained in contravention of the laws of the Federated States of Micronesia.	NOTE: All exported Corals are fragmented corals on artificial rocks and made out of F1 generations.
	Valentin A. Martin, Deputy Assistant Secretary Office of Marine Resources Division of Resource Management and Development Department of Resources & Development FSM Government, Palikir, Pohnpei FM 96941 Place / Date: 2-15-12	NOTE: All Tridacnid clams were spawned and reared in captivity at the Marine and Environmental Research Institute of Pohnpei.

 Official Stamp	Authorized Official FSM Quarantine Services Name: <i>Agatito Semens</i> Place: <i>Kolonik, Pohnpei</i> Date: <i>2/17/12</i>	Validation:	1	200	pcs.	12	0	pcs.
		2	0	pcs.	13	50	pcs.	
		3	50	pcs.	14	50	pcs.	
		4	50	pcs.	15	50	pcs.	
		5	0	pcs.	16	0	pcs.	
		6	0	pcs.	17	0	pcs.	
		7	50	pcs.	18	0	pcs.	
		8	45	pcs.	19	0	pcs.	
		9	50	pcs.	20	50	pcs.	
		10	30	pcs.	21	0	pcs.	
		11	50	pcs.	22	0	pcs.	



Office of Administrator

Office of Fisheries and Aquaculture

P.O. Box B & 738

Kolonia, Pohnpei

Federated States of Micronesia 96941

Tel: (691) 320-2775/2298/2795

Fax: (691) 320-8137/4241

Permit No. OEA-11-13

CERTIFICATE OF ORIGIN AND EXPORT PERMIT

Date: 2/10/11

Exporter:

Marine and Environmental Research Institute of Pohnpei (MERIP), P.O.Box 1005, Tamorohel, Pohnpei, FM 96941. Tel 691-320-7948

Importer: MMME, NAC, Causeway, Lelu, Kosrae, FM 96944

Description of items for export:

Scientific Name	Quantity (Pieces)	Scientific Name	Quantity (Pieces)
Sarcophyton spp.	600		

I am satisfied that the export/ import of the specimen described herein will not be detrimental to the survival of the species and that the specimen was not obtained in contravention of the laws Pohnpei, Federated States of Micronesia.

NOTE: All exported corals are fragmented and grown from F1 generations. All Tridacnid clams were spawned and reared in captivity at the Marine and Environmental Research Institute of Pohnpei.

Shipment may contain less than permitted amount.

Hernet Ringlen
Acting Administrator

Office of Fisheries & Aquaculture

005 PNI 1061 8860

005 1061 8860

SHIPPER'S NAME AND ADDRESS
SIMON ELLIS, MERIP
 PO BOX 1005
 KOLONIA - POHNPEI
 FSM 96941
 TEL. #691-320-7948

CONSIGNEE'S ACCOUNT NUMBER
**CONEYONG INTERNATIONAL,
 C/O TRIPLE B FORWARDERS**
 355 CHAMLAN PASAHERU
 GUAM USA 96913
 TEL. #671-642-0421

NOT NEGOTIABLE
AIR WAYBILL
(SEE CONSIGNMENT NOTE)

Continental Airlines
NEW JERSEY
 HOUSTON, TEXAS 77002

Pages 1, 2 and 3 of this Air Waybill are originals and have same validity.

It is agreed that the goods described herein are accepted in shipment great value and without interest or claim for damage subject to the conditions of contract on the reverse hereof. All goods may be carried on any carrier means including road or air other carrier vessels, airplanes, containers, packagings and other vehicles on the carrier and shipper agrees that the shipment may be carried via intermediate stopovers and flights through the carrier's (airline) arrangements. The carrier is not liable in claims for the goods if the carrier is not the carrier of record. Shipper may receive full insurance of liability by attaching a higher value for storage and using supplemental charge if desired.

SHIPPER'S NAME AND ADDRESS (OPTIONAL ACCOUNTING INFORMATION)
MPH/PNIFFCO

ALSO NOTIFY NAME AND ADDRESS (OPTIONAL ACCOUNTING INFORMATION)

SHIPPER'S IATA CODE
MPH/PNIFFCO

ACCOUNTING INFORMATION

REPORT OF DEPARTURE (NAME OF CARRIER AND REQUESTED ROUTING)
POHNPEI AIRPORT

FREIGHT PREPAID CK#4640

BY FIRST CARRIER	TO	BY	TO	BY	CURRENCY	UNIT	PAID FOR	PAID FOR	PAID FOR	PAID FOR
GUM	CO				USD	PPPP	PP	NDV	NVC	

AMOUNT OF INSURANCE: **INSURANCE IS SHIPPED INSURED IN ACCORDANCE WITH CONDITIONS ON REVERSE HEREOF. INDICATE AMOUNT TO BE INSURED IN FIGURES IN THIS MARKED AMOUNT OF INSURANCE.**

PLS CALL TRIPLE B FORWARDERS UPON ARRIVAL!!! THANK YOU!!!

NO. OF PIECES	GROSS WEIGHT	RATE CLASS	CHARGEABLE WEIGHT	CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL. DIMENSIONS OR VOLUME)
10	232	CMR	105.5k	2.30	242.65	LIVE CLAMS & CORALS
10					242.65	

242.65	PREPAID CHARGES	ORIGIN ADVANCE CHARGES	DESCRIPTION OF ORIGIN ADVANCE	ITEMS PREPAID
15.00	DELIVERY CHARGES	DEST ADVANCE CHARGES	DESCRIPTION OF DEST ADVANCE	ITEMS COLLECT
55.92	SHIPPER'S R.F.C. OTHER CHARGES AND DESCRIPTION			
15.82	The shipper certifies that the particulars on the face hereof are correct, agree to the conditions on reverse hereof, accept the carrier's liability in full as stated, and that the goods are not dangerous, inflammable, or otherwise subject to special regulations, and to indemnify the carrier against all claims for damage by an accident in accordance with applicable national governmental regulations, and to indemnify the carrier against all claims for damage by an accident in accordance with applicable national governmental regulations, and to indemnify the carrier against all claims for damage by an accident in accordance with applicable national governmental regulations.			
COD	SIGNATURE OF SHIPPER OR AGENT ABOVE AND INITIAL APPLICABLE BOX BELOW			
\$329.39	EXERCISED ON: 10MAY11 PNIFFCO MPH/PNIFFCO			

FOR CARRIER USE ONLY AT DESTINATION

NO. 3 ORIGINAL FOR SHIPPER 005 1061 8860

Shipping

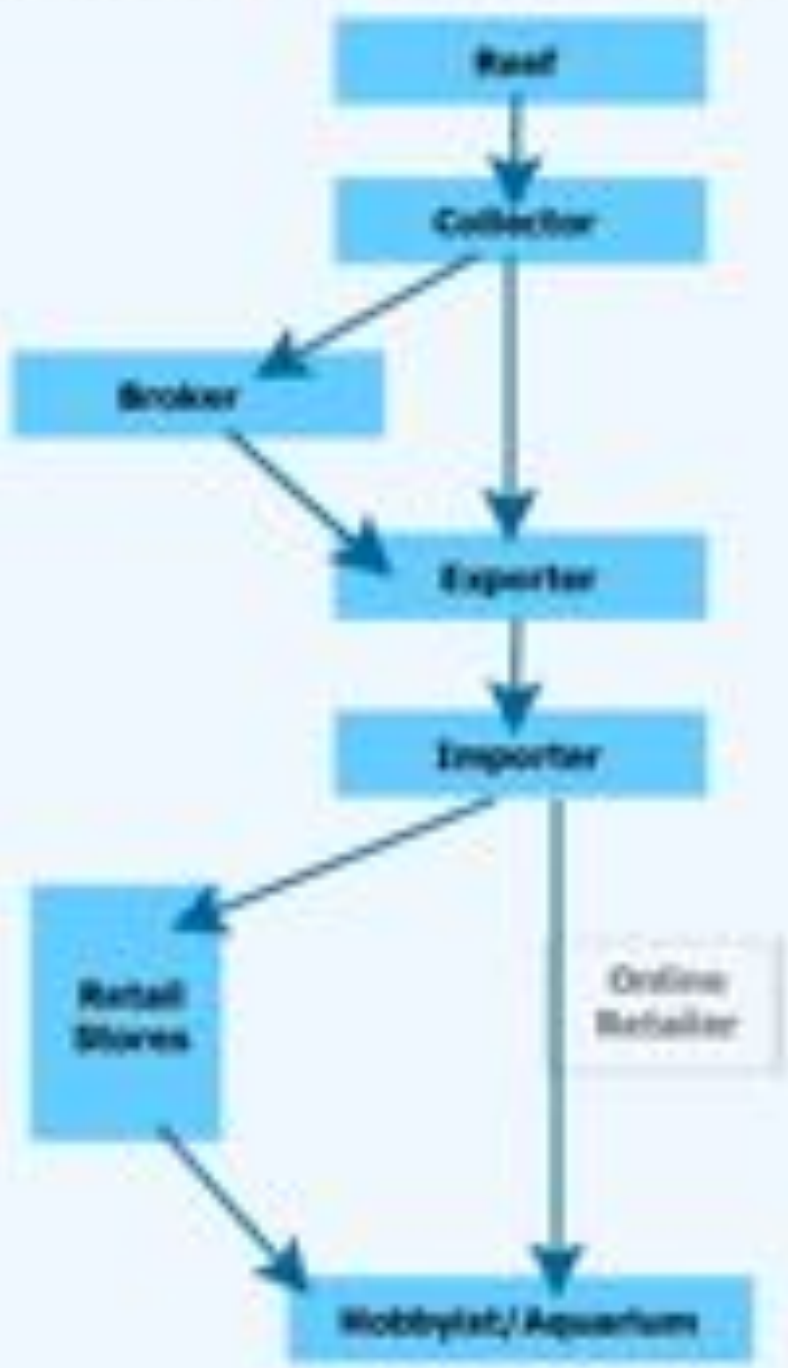
A wide-angle photograph of a vast, deep blue ocean under a bright blue sky with wispy white clouds. The sun is visible on the left side, creating a shimmering reflection on the water's surface.

Problems Associated With Shipping

- Many of the mortalities associated with the MO industry are related to poor shipping and handling practices
- Shipping is very expensive in the Pacific Islands and cargo capacity is often limiting
- Infrastructure can be poor
- Losses during shipping not only have economic consequences but also environmental impact

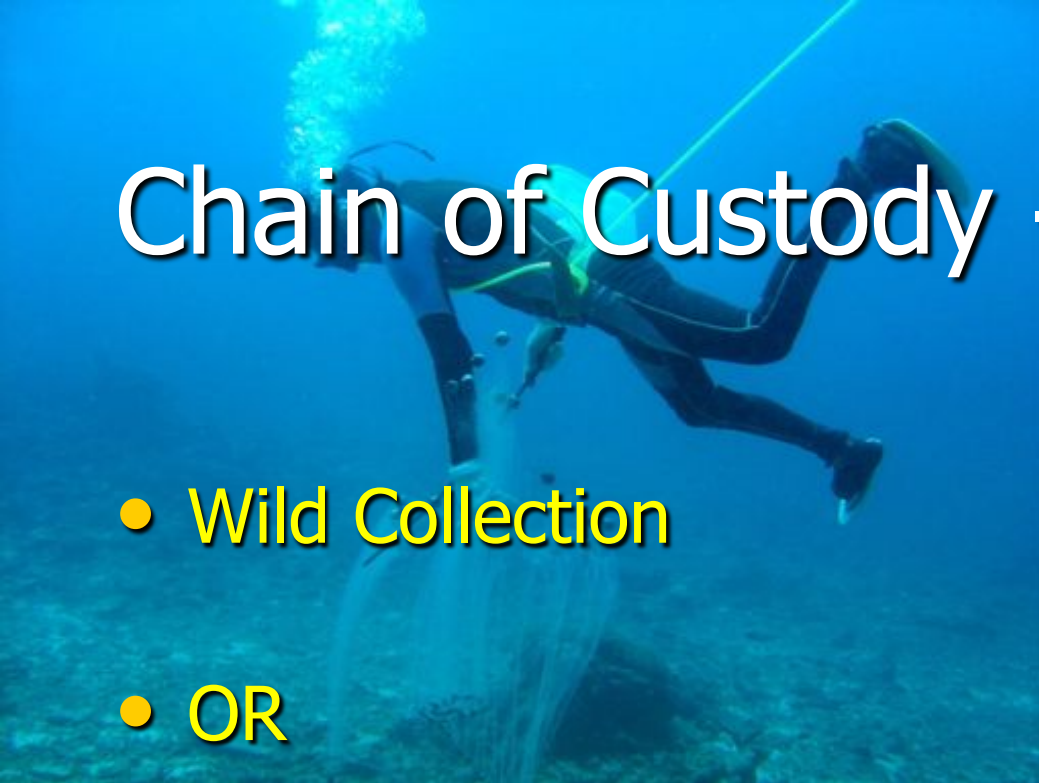


CHAIN OF CUSTODY FROM REEF TO AQUARIUM



Chain of Custody - Source

- Wild Collection
- OR
- Farm Raised



Chain of Custody - Local



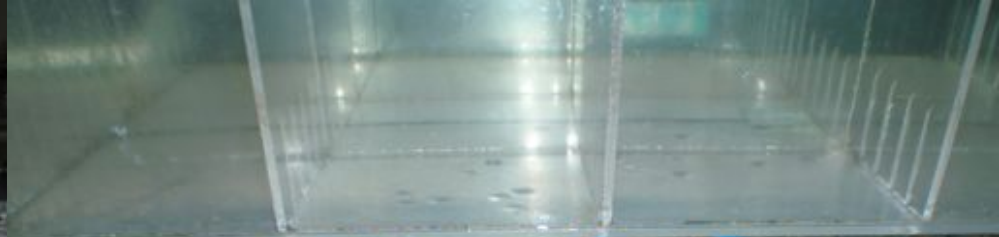
- Animals are sold on to a local exporter or wholesaler
- Sometimes they are held in poor conditions, often in the ocean for up to one week.



Chain of Custody - Local

- Many local export stations are large and well equipped.





Chain of Custody - Local



- Others are more simple in nature



Chain of Custody – Wholesaler and Retail



- Animals are shipped to wholesaler usually in the USA or EU
- Wholesaler then ships onto the retailer shops
- Direct marketing via the Internet is increasingly used.



Packing Methods

- Technology remains essentially unchanged
- Animals are packed in water in plastic bags
- Bags are inflated with oxygen
- Oxygen:water ratio ranges 4:1 to 6:1
- Temperature stability is provided by insulated boxes
- Additives such as ammonia strippers, antibiotics and pH buffers can be added to the shipping water.
- Most animals are shipped singly or in low numbers per bag



Causes of Mortality – Stress Prior to Shipment

- Repeated handling of the animals during collection, rapid temperature changes, over crowding, oxygen deprivation and trauma can all stress the animals prior to shipping.
- Implementation of best management practices and training for collectors, exporters and brokers.
- Ensure the animals are healthy before shipment through observation or stress testing

Causes of Mortality - Metabolites

- During the shipping process build up of metabolites is the greatest stressor.
- Oxygen is rarely a limiting factor
- Ammonia and Carbon dioxide build up are the main problems.
- High Carbon dioxide and low pH affect the oxygen carrying capacity of blood
- Bacterial blooms can also cause latent infection

Metabolite Reduction

- Use of sufficient water to buffer metabolites
- Food deprivation for 24-72 hours prior to shipment to reduce Ammonia excretion
- Pre-shipment dips and baths
- Treatment of shipping water with UV and protein skimming
- Reducing shipping water temperature
- Use of ammonia “strippers”
- Buffers to control pH
- Antibiotics to reduce bacterial blooms
- Anesthetics can reduce stress

Metabolite Reduction

- The use of anesthetics and buffers in the MOI is not well documented and the misuse of these can cause entire shipment failure.
- Generally most shippers use no additives and prefer to manage the water quality using water temperatures and stocking density.

Acclimation

- This is critical phase for receiving animals
- Bags are floated in the receiving water for up to one hour stabilize the temperature
- Avoid harsh light or sunlight
- Once the shipping bag is opened Carbon dioxide will dissipate increasing the pH and toxic ammonia content of the water
- Dip fish immediately into the receiving water and discard the shipping water

Damp or Dry Shipping

- The cost of shipping water is often higher than the value of the animal being shipped
- Some species can be shipped without water.
- Soft corals, corallimorphs and zooanthids are wrapped in damp paper towel
- Hard corals are wrapped in “bubblewrap”.



Payment and DOA

- Where possible insist on pre-payment
- A certain amount of mortality (5-10%) is acceptable and should be agreed upon before shipping
- A buyer may claim Dead on Arrival (DOA) for amounts over this. Usually photographic evidence is provided and credit is given for the next shipment (livestock only)
- Getting payment from some buyers can be a problem

