**All selected interview references to the codes in Stage 1 of the Reflective Thematic Analysis**

Files\\Pacific Oyster Industry Survey - § 83 references coded [ 8.72% Coverage]

Reference 1 - 0.11% Coverage

Goes hand in hand with robustness. Withstanding borers etc.

Reference 2 - 0.11% Coverage

It does contribute to losses because we try grow our seed in water so anything that comes from the deep water, it’s fragile in the grading stage. Windy growing areas have oyster rubbing through the baskets so density could be an issue. So more of grading issue for chipping oysters

Reference 3 - 0.11% Coverage

With the growing system, shell thickness can be manipulated a lot. Could go from really thin shells or slow down growth to obtain thicker shells. Issue with thin shells is that during shucking they could break of and the meat left attached to thin shell portions/fragments. Removing shell fragments from the meat is also time consuming. A faster growing oyster with thinner shells won’t be that appealing to a buyer. A fast growing oyster that is not rumbled enough in the holding facilities could obtain market sizes that could be crushed with the fingers. This is a husbandry issue that can be handled through growing methods/practices.

Reference 4 - 0.11% Coverage

Chalkiness arises from a lack of handling. It does not contribute to mortalities or a loss of production but an indicator of poor husbandry or low water quality. Less handling and rumbling during production could produce brittle and chalky shells. This could be reverted quickly by moving to intertidal heights and this could slow down the sales process.

Reference 5 - 0.11% Coverage

Once the shell is damaged the oyster cannot protect itself because they are invasive species, they cannot control or regulate the water within the shell because of the damage it also makes it more difficult for the animal to withstand fresh water and in salts and also protect itself against other preying organisms once it is out of the water within the intertidal zone. The harshness of wind through a cracking shell will actually draw the internal shell out and that is probably the most damaging. Also the ability for temperature to change from frost versus sunshine days where the animal is damage, struggling to survive because of the rapid temperature changes and so on There are a myriad of reasons why we should be protecting the oysters shell to the greatest possible that we can

Reference 6 - 0.11% Coverage

It goes hand in hand with all the information I have just given you

Reference 7 - 0.11% Coverage

It is important because in transport light/weight can damage oysters so if the shell thickness is not there to support the quantities that are sellable and transportable at effective cost prices then you are going to lose a lot of stock and not going to provide a healthy animal for wholesaling retailing or enjoying for the consumer. It also makes the animal more susceptible to disease (the breakdown of the oyster bring all sort of opportunities for bacteria to infiltrate the animal in transit before processing

Reference 8 - 0.11% Coverage

Its about the shell being damaged, losing its waters, losing its freshness, losing itself, being exposed to the environment which leads to health issues in terms of giving consumption

Reference 9 - 0.11% Coverage

That goes with robustness. The handling stresses is important for us in the marketplace. Because we ship stock nationally, soft shell doesn’t travel well with long distances. We work o a highway farming model or relay farming, where we move stock from one farm like a nursery farm through to grow out farms through to sales farm and so its important that stock can withstand the stress of being aggregated into bags and transported. The stock get damaged, wont be able to retain liquid and becomes highly stressed and can die or its growth rate can be impeded when the shell is not hard.

Reference 10 - 0.11% Coverage

All the above basically, its what we’ve been saying about shell hardness

Reference 11 - 0.11% Coverage

Its also the same as hardness

Reference 12 - 0.11% Coverage

Its also the same as hardness

Reference 13 - 0.11% Coverage

It doesn’t contribute to losses it offsets losses, most of the graders mechanical are reasonably hard on the oysters so shell density reduces chipping, reduces shell breakage and increasing the shelf life if we’ve got a 25 or 30 dozen bag of oysters it stacked on a pallet shell density will stop or help mitigate crushing other oysters that are on the bottom and generally builds a more robust shell that has been around to handle the pressures of handling, harvesting, and grading.

Reference 14 - 0.11% Coverage

Very closely linked to density, so the seal is important for the oyster to retain its water or liquid and extend its shelf life so the seal is probably a combination of shell hardness and abductor muscle strength. The ability of the oyster to travel long distances like if were selling into north Queensland if they spend quite a bit of time in a truck so anything that can enhance that travel time is very important

Reference 15 - 0.11% Coverage

Shell thickness is again related to shell strength. Again its shell density like how strong is the shell what parameter do you have to measured to determine that is a density or thickness the same reason ring through. Its about extending travel time mean the ability to withstand grading activities and handling activities

Reference 16 - 0.11% Coverage

The shell becomes softer, breaks and chips easily, so the oyster loses its liquid, dies early, doesn’t travel well and isn’t resistant to rough handling so that’s an issue. Chalkiness from my experience is related to fast growth.

Reference 17 - 0.11% Coverage

It has a significant effect. Our machinery is quite crude and goes through a lot of conveyor belts and systems which definitely chip a lot of soft shells. Its hard to tell l but I believe that equates to the oysters mortality definitely to a certain percent. So I believe with the current machinery with juveniles specifically the lack of hard shells defiantly result in damage

Reference 18 - 0.11% Coverage

We don’t have much problem with this. But I believe that its necessary for a good seal for us during sales time but they are usually finished quite well

Reference 19 - 0.11% Coverage

Similar to the first answer, the machinery being quite harsh, the thickness during juveniles stage allows them to be susceptible to significant damage. We try to reduce that, through growing techniques to round them up, to have less thin edges to get damaged. It is quite important during our water grading system, if they are unable to settle properly, they would float and therefore not grade correctly. We try to get them back into the water quickly at an increased shell closure and seal

Reference 20 - 0.11% Coverage

Six to eight months as juveniles. just similar to the last response, just without the crude machinery. The machinery is kind of unnecessary to handle large volumes, so result in some damage

Reference 21 - 0.11% Coverage

Hard shell is better and less likely to get damaged. Mostly in post harvest handling and grading a hard shell is definitely and advantage compared to the softer shell. They also seem to deal with worms a little bit better , if you got much worm in your system

Reference 22 - 0.11% Coverage

If they can seal up really well then they will survive grading and everything a lot better than if they tend to be a bit weak. If they have created a good seal particularly for shelf life it on in the market once you send them on to market an oysters that can hold its water is in a better condition than the oyster that cant and loses water in transit. So shell closure is tied together to shell hardness a little bit

Reference 23 - 0.11% Coverage

Thickness has a little bit to do with hardness but. Hardness would be better than thickness, that’s the best way I could describe it. I would have a hard shell rather than thick shell. There is a bit of issue with thickness when you’re trying to sell some through retailers that sell by weight. If you end up with an overly thick shell for the same size always it gets too heavy and makes packaging and the weights for marketing. You don’t necessarily aim for it

Reference 24 - 0.11% Coverage

Brittles and chalkiness tends to come from a little bit fast growth, so you try to avoid that because that basically a weak shell you get a lot of damage when grading and their weight small. But very short shell life and that’s not a good thing to have

Reference 25 - 0.11% Coverage

These are the main things we look out for. The better the hardness and density of the shell, the better the survivability, the better the condition. An oyster that’s got a pretty poor shell hardness/density generally has a week shell closure or seal muscle. I think shell hardness/density goes with shell closure/seal. If they don’t have the ability to close properly then it comes with the hardness. You can get around this by making sure you don’t stress the oysters when they have come in or out, you can be more careful or diligent about your grading. That’s something we work on here, trying not to grow oysters too fast and we have waters that seem to grow oysters relatively quick if we want to but we manage our heights around that

Reference 26 - 0.11% Coverage

Your internet was terrible but he mentioned in ‘a’ that, ‘ I think shell hardness/density goes with shell closure/seal’

Reference 27 - 0.11% Coverage

Shell thickness would go with the shell density

Reference 28 - 0.11% Coverage

That comes with a number of things, environment and genetic issues. Sometimes its hard to determine. But its something we definitely don’t want in an oyster trait. If something that I can pass on to ASI its brittleness and chalkiness. Generally it gives a trait of an unhealthy animal. In our production line what we do is to not get them to that point, we try to manage our way around it so that we don’t get it. I don’t see a lot of it to be able to comment it

Reference 29 - 0.11% Coverage

Shell hardness helps the oyster to withstand damage during handling and grading. It also helps the oyster condition a bit although that is not a great correlation. It also helps with presentation because if you can have a good quality nacre on the inside. Having a good quality nacre on the inside of the oyster helps with oyster presentation for the market

Reference 30 - 0.11% Coverage

Is important because as soon as the seal is broken you get air in there and you start the process of rancidification. It also stops the oyster from resisting bacteria build up, so if you have seal problems you more likely to have human health issues around bacteria. Also if the oyster has got a good seal then its less likely to damage through the healing process when its returned to the water

Reference 31 - 0.11% Coverage

This is probably more important in younger oysters and older oysters. older oysters tend to have more of a natural shell thickness, but in younger oysters especially spat a lighter shell can lead to damage and losses

Reference 32 - 0.11% Coverage

Well that is similar to the one above. The shell is too vulnerable to being damaged during handling and that can be handling for market or handling for grading and returning and it can affect the oyster.

Reference 33 - 0.11% Coverage

Because our animals are very small at the stage, dealing with them is very important to have the right hardness and shell density in the oysters. If they have weak shell they can get damage. When we transfer the oysters at a young age up to the seedlings, because we do a nursery based system in the sea as well, we’ve got to watch the hardness there because if the shell density is not right and hardness is not right they can sustain damage from the natural environment that will cause them to suffer from mortality if they are not handled properly

Reference 34 - 0.11% Coverage

This very similar to the hardness part. If the seal is not very good, we can have regarding the tidal, water for our nursery as well, so that would mean they need to be well drained during the low tides moments and if they haven’t got a good seal then certainly like to come to the temperatures and the exposure that might be exposed to

Reference 35 - 0.11% Coverage

The thickness of the animal can be impacted on if the systems that we hold them in they can get a bit of rumbling and therefore the thickness is impacted if they cant handle the rumbling

Reference 36 - 0.11% Coverage

Its similar to the above

Reference 37 - 0.11% Coverage

We got a lot of predation in our system, they can be opened to birds or skates, so the harder those oysters are the more likely they are to survive that predation. Also during transport we transport oysters to from one bag to another, so good shell density they are less likely to chip the oyster and less likely to break that seal and lose their water to cause them to dry out and die, and also when you’re selling them in the market if that shell is nice and hard again if they are in transit then they will be able to survive any rough handling and come out in a good state for the consumer

Reference 38 - 0.11% Coverage

Similar to what I answered before. If they having to help them travel when they going to market or transferring them around the state. Also when the POMS is active in our bays, a good seal helps prevent them from drying out when the tide goes out

Reference 39 - 0.11% Coverage

Not a huge importance if the other two are fine and the shell not brittle it doesn’t really matter how thick it is or strong

Reference 40 - 0.11% Coverage

When handling the oyster, you can easily chip or break the seal they lose water once again they keep doing that, dry out and die and that goes for our grading, harvesting and transportation of oysters to customers. Most of our bays don’t have an issue with it because we are all intertidal so we generally have a good shell density and strength. Occasionally we get oysters like that but generally our bays are not too affected by that

Reference 41 - 0.11% Coverage

shell hardness, through grading If shell breaks they are more likely to succumb to mortality and losses. so a harder denser shell less likely to break unnecessarily during grading or excessively.

Reference 42 - 0.11% Coverage

Shell closure or seal have a general strength. If an oyster can hold its water and not open up during a 24 hour on land and then grading, process mortalities are going to be reduced and how. it reduces the desiccation, less likely to dry out. during probably an undesirable environmental event in a growing area such as a flood, if an oyster can close up for a longer period it’s more likely to survive. so oysters might very well close up during a fresh water influx on an outgoing tide fresh water inputs coming from the land and then an incoming tide with increases in salinity they might open up again so if an oyster can withstand those long periods of being closed, day after day or tide after tide, you’re going to reduce losses

Reference 43 - 0.11% Coverage

I think that ties in with shell density. I would assume a thicker Shell is a stronger shell.

Reference 44 - 0.11% Coverage

Shell brittleness less likely to crack during grading and handling and heavy weather events. Chalkiness is weaker during grading activities more likely to crack, dry out on a high tide during hatchery handling.

Reference 45 - 0.11% Coverage

particularly related to handling stress, while grading. The harder dense a shell, there’s going to be less chance of the shell chipping during the grading process and therefore less chance of them losing water and dying. Shell hardness and density is probably most relative to grading stress, however, it would also have a higher ability to handle really strong wind events. which also you know really strong wind can sometimes kill oysters on the farm because they get knocked around too much.

Reference 46 - 0.11% Coverage

Being denser and being able to close up during the grading process means that they are less likely to lose water and survive more through that but also in those really hot days that South Australia has the ability to seal up and close really well are the key components to the oysters surviving. it also significantly helps with sales and shelf life with the oysters.

Reference 47 - 0.11% Coverage

the thicker of the shell, probably the better resilience to the hot days that they experience. Some of the highest surviving families during trials have thick shells, so I believe there’s a link of thick and dense shell to just general survival

Reference 48 - 0.11% Coverage

Brittle increases its chances of damage during grading or high wind and rumbling events or makes it more prone to mudworm or predators.

Reference 49 - 0.11% Coverage

Due to the deep water the oysters are a little bit sensitive, so you have to be careful when handling

Reference 50 - 0.11% Coverage

Risk of damage when handling

Reference 51 - 0.11% Coverage

Risk of damage when handling

Reference 52 - 0.11% Coverage

Risk of damage when handling

Reference 53 - 0.11% Coverage

If your if your shell is thin, it will increase your mortality rate. so a lot of work to concentrate on trying to get the shell hardness/density to not damage and that include production, so sometimes with thin shell, crabs will come in and they can wipe out 15/20% of your production, just like that, so the harder the shell the less mortality, you have when you handle it.

Reference 54 - 0.11% Coverage

I don’t have a lot of issue with shell closure and seal. we have some issues with Shell closure, maybe towards spawning when the oysters get a little weak when spawning and we bring them in and you’d handled, and if you don’t put them straight back, you will see them open up quite early..

Reference 55 - 0.11% Coverage

a nice thick shell provides a stable environment for the oysters and that’s how I look at it, both. Having a weak thin shell, up here we grow oysters really fast and we call them porcelain oysters because, when you put the oyster up to the sun, and you can nearly see through the shell, they die they’re very fragile they grow very fast and grow thin shell. And then, when you handle them you get a high mortality, so we don’t try and grow a product like that we want to see Shell thickness in our oysters.

Reference 56 - 0.11% Coverage

we see a little bit of that up here when some oysters are grown too low. that’s not great for marketing, because it means the chalkiness in particular when you open the oysters they become brittle and they break off and that chalkiness, can be very powdery and it can actually stick to the meat and very unsavoury from a marketing point of view. so we do some subtidal farming up here and we have to be very careful with how long the oysters are in subtidal environment because they can go very chalky they’re brittle which then means they’re easier to break/die and mortality, but also when it goes to market, they get open and then they just fall apart, and then they get that white chalky powder on the meats, and you can’t make the product unmarketable so you’ve to be very careful with chalkiness.

Reference 57 - 0.11% Coverage

When we haven’t got them to grade on time, we can get mortalities there but that’s a management thing. When we grade them through certain machines, you might choose the oyster and they lose their seal essentially and let water out. and when they get back in the water they don’t have a complete shell so they are open to predators in the ocean. if the shell grows quickly they get frilly/frailly. We harden the oysters up by lifting their limes/lawns during some sort of wind events. and we can reduce the shell naturally out in the ocean, but if they come in real frilly and we do run the risk of mortality from grading them when they’re like that.

Reference 58 - 0.11% Coverage

If that frailly shell chips away to the point where the oyster cannot seal a lot we can get mortality from that as well.

Reference 59 - 0.11% Coverage

Does not affect us

Reference 60 - 0.11% Coverage

If the oysters grow quickly and frailly You can get mortalities as I mentioned earlier. No chalkiness in the ISIS stocks

Reference 61 - 0.11% Coverage

I think if you’ve got that nice hardy dense shell they’re just going to handle when they run through graders. You do get batches from time to time that I’ve got a soft shell, and I want to thin shell. And then oysters just don’t handle as well the what we need to do that hardiness of the shell is very important to the survivability of the oysters.

Reference 62 - 0.11% Coverage

If the oysters aren’t sealing properly they’re going to come in get handled run through a grader and get loaded back up again.so if they’re not sealing well and losing their water you’re going to have more losses. yeah so something that can seal and hold its water in, while it gets graded or processed. It very important to the handling and very important when you sell it as well then it’s going to maintain Its freshness for as long as possible if it’s got a good seal and the oyster hold its water.

Reference 63 - 0.11% Coverage

i’m not sure how important thickness whether like a Shell that dense and hard Is not sure about that one because obviously it takes energy to grow a shell. I haven’t thought about that too much. I guess you want a reasonably thick Shell. I think that there’s a lot of energy going into building a big thick shell. That can be too much where just medium, when it’s not too thin it’s going to break. But the thickness that is robust enough without putting too much energy into Shell thickness I guess.

Reference 64 - 0.11% Coverage

I have had some batches that the shell was really chalky. I don’t think the batch performed any worse but I didn’t really like the chalky shell. They seemed a bit softer and that say that one that’s got the heart really hard Blocker on it and it’s a really hard Shell we’re that’s what I like and. I can’t remember the chalky batches being worse or anything but I just didn’t like the look of it to be truthful. It was softer the shell the ones that were chalky. you could noticeably break stuff off and when you’re opening an oyster to check it out, it would crumble. With the hard shell it’s quite hard to get into and that but it keeps its edge, whereas the chalky ones were sort of breaking off as you put in the I did not like the look of the chalky ones. And why I don’t like it I couldn’t quite pin down why I didn’t like it, but I just didn’t

Reference 65 - 0.11% Coverage

Yes, big time. You damage from machinery… So everything we do is with forklifts, and \*\*wantage\*\* bins and hydraulic tippers and if you subject your oysters to too many too much weight, so simply compaction, you can damage them and crack the shell if they are very soft. So shell hardness is very important for that and it can lead to significant losses during production. Shell damage from impact and weight distribution. If the shells have been grown soft and into the basket, then they can crack and cause damage. If you try to sell your oysters very soft into the market, depending on how you transport them, if you put a thousand dozen oysters in a hashin bag on a pallet, it will have a lot of weight in it that if the oysters have soft shells, then they will just simply get damaged in transit through vibration and bouncing.

Reference 66 - 0.11% Coverage

Again, that is huge. So once an oyster is through the grader, it has to go back into water the same day. Simply, so that seal, if it it has been damaged in the production process of that day, then the oyster gets the chance to immediately go back into the water and it can repair any damage to that seal or the closure. Of you don’t do it right, you can lose half of your oysters if they are damaged and soft and they are left out. So you need to back able to get your oysters back in the water quickly. Once they have been through the processes of farm production. If they have a good hard seal and a hard closure, you can leave them out with no problem. Otherwise, they will die off. So that also comes back to strong adductor muscles, to good glycogen content… So the animal is healthy and strong with a strong adductor muscle. So again that’s a mixture of husbandry and breeding. But when you want to sell them to Brisbane (long distance) and you have them sitting in the back of a truck, then that is really important. If they arrive and they are all dead and dry, you don’t sell many oysters.

Reference 67 - 0.11% Coverage

Again that comes back to me to the other two. Thickness can be thought of in the same lines as the ability of the animal to withstand mechanical intrusion, the ability of the animal to withstand routine production techniques. If they are thin, and soft, then you can kill about 30% of your baby animals if they are a really thin, sort of papery shell. So it can be very crucial. Shell thickness is one of the first things I look for in my seed, and I have rejected seed on the basis of that. I don’t want to inherit someone else’s problem.

Reference 68 - 0.11% Coverage

So if I bring my oysters in from our offshore farm, they will get brittle and chalky because we will leave them subtidally for anything up to 10 weeks of the time. If then leave them out overnight, they will all die. So, that chalkiness and brittleness goes along with a poor adductor muscle strength. Along the same thing of the seal breaking. It’s all sort of interconnected. Pretty much all of these can be interlinked. So that brittleness and chalkiness to me is always linked to the seal. So you can break that seal really easily and quickly with a brittle shell. And once you break the seal, the oyster will dry out and die. For us we get around that by bringing our oysters in from our subtidal farm, leaving them in our intertidal area for about 4 or 5 days and the brittleness and chalkiness will harden off very quickly. I think it might be UV (you will be able to tell me when you finish your work), but it’s important to get rid of it, to stop it, because you’ll kill a lot of oysters if it’s too chalky or soft.

Reference 69 - 0.11% Coverage

Doesn’t apply to them because they culture only spat. However, shell hardness is important specifically for when the oysters get bigger, because of different grading machines different handling regimes, the way people pick up and drop oysters move them. There are many different handling stages.

Reference 70 - 0.11% Coverage

Handling/mishandling It’s very difficult sometimes to work out what the weather’s going to do so, some people may get their oysters in too frequently or not frequently enough, there seems to be a line in the middle, where it’s best for them so you can overhandle under handle and they both detrimental. if you under handle the oyster become soft, especially if it depends on the height, they have it if it’s a must for too long, and they don’t handle it go soft okay. I’ve had lots of issues with some. There is the winter and summer mortalities. Which is related to how often the oyster can stay closed or not and if it’s damaged. The tighter and closed it can stay the better for the animal and to reduce losses, otherwise within these extreme conditions if it doesn’t close, then its open to predators it’s open to everything.

Reference 71 - 0.11% Coverage

I sometimes oysters are very thin and brittle. And they break quite easily. others are little bit softer, but I think shells don’t break as much, but then that comes down to exposure time and the abductor muscle. just from handling the rock, if you break the shell, the abductor muscle lose the liquid and then dry up and die. Thickness and hardness combined. Chalkiness is both top and down valves. Then the impact from handling or anything affects the oyster

Reference 72 - 0.11% Coverage

If your shell is too weak when it comes in for grade it’ll chip a lot easier, and you’ll get mortality as a result of shell damage. also if the shell isn’t hard and dense when it gets to a mature size they won’t put on condition either. They’ll generally be a weaker animal. They wont hold water particularly well when you travel they have a shorter shelf life. And you just struggle to put enough condition on them to get a saleable product.

Reference 73 - 0.11% Coverage

Weak abductor muscle. if you’re grading one day and taking back out the next day, if they are in a lot of water overnight while they’re in the shed, you’ll get some losses. then when you get to sale, something with a weak abductor muscle will have a less shelf life than something with a strong abductor muscle and closed up. probably has an impact with the temperature, stress as well. Something with a strong muscle will tolerate heat better than if they’ve got a weak muscle.

Reference 74 - 0.11% Coverage

It is like a blanket. Something with a thin shell be more susceptible to heat stress and most of all the chipping. there’s a difference between thick and chalky, you can have a thick shell, but if it’s chalky and weak ,that’s not good either. It needs to be a dense kind of hard shell which protects the animal inside

Reference 75 - 0.11% Coverage

brittle shell are generally a weaker animal. You struggle to fatten them, you struggle to condition them. they don’t have that characteristic of a strong and robust animal, more likely to chip and lose water. it’s hard to get the good shape in them. they just seem to do whatever they want to do, and the shapes can be quite poor (valve/chalky question). all new growth shell is around the top of the oyster. So that’s the most vulnerable place, where you’ve got faster growth where you’ve got fresh young growth is the most vulnerable areas, around the top of the oyster. The whole oyster will be chalky. Generally when you open them, like on the right-hand side, if you’ve got your point down next to the abductor muscle, where you go in there as often where you open them. So if its a chalky oyster, that’s when you chip it and it will flake away In south Australia, the oysters that are susceptible to dying we’ll find that the bottom shell, the cup of the bottom shell grows a lot quicker than the top shell and it’s like the animal inside can’t keep up with the growth of the shell, and it kind of burns out and dies.

Reference 76 - 0.11% Coverage

Yes. because if you handle them wrongly and you break the shells they become exposed and they die

Reference 77 - 0.11% Coverage

Yes. Because if we have them out in the deep water for too long their muscles become weak. And if they are handles wrong, they tend to break more easily

Reference 78 - 0.11% Coverage

Yes. If we handle them not carefully, then they can break easy.

Reference 79 - 0.11% Coverage

No I don’t think so (chalkiness is not a problem)

Reference 80 - 0.11% Coverage

Well for juvenile oysters we use a shaker grader. It’s quite rough on the oyster so if they are weak and soft shells, then they can get damaged especially during summer, we’ll get losses in them.

Reference 81 - 0.11% Coverage

We’ve sent a lot of oysters to Darwin and Queensland and Western Australia so by the time on the truck that it takes to get there, and especially Darwin and Queensland where it’s quite warm, the [\*\*our\*\*] seal is [\*\*permanent\*\*] and quite often we would have markets especially in Darwin (we’ve been selling to Darwin for a long time over 20 years), and they like to get our oysters because they do have a strong seal.

Reference 82 - 0.11% Coverage

I think that will come hand-in-hand with the seal. If the shell is is good and strong and thick, it’s going to be more sturdy. Quite often we grade oysters in a day into sex so if the shell is thick and hard, there is less chance to damage in that process.

Reference 83 - 0.11% Coverage

Yes I think so, especially using a shaker grader. If they get chipped, they lose the water and if they are not back onto the lease in water, we will lose a few. We did some the other day, put them back in the water within about 24 hours I suppose or probably within 12 or 15 hours of grading and we migh have suffered a 2 percent loss through shells failing and losing their water for too long without being in the water with the chipped shell. It’s not something that we think of as unusual and when there is plenty of variability of stocks, we have to handle them – we can’t not handle them otherwise we don’t get the grades that we want. So we’re prepared and realise that there is a percentage that aren’t going to survive that. The bottom shell is the biggest and probably the most vulnerable to be chipped. Sometimes the top shell is inside the bottom shell a bit. So I think you’re more likely to chip the edge of the. Bottom shell than the top. If that was bulky that would be a better trait.