

STATES OF JERSEY

Corporate Services Scrutiny Panel Proposed Importation of Bovine Semen

MONDAY, 16th JUNE 2008

Panel:

Deputy P.J.D. Ryan of St. Helier (Chairman)

Deputy J.A. Martin of St. Helier

Connétable G.F. Butcher of St. John

Connétable P.F.M. Hanning of St. Saviour

Professor S. Hall

Ms. S. Power (Scrutiny Officer)

Witnesses:

Mr. S. Le Feuvre (Royal Jersey Agricultural & Horticultural Society)

Mr. R. Leith (Royal Jersey Agricultural & Horticultural Society)

Mr. P. Houze (Royal Jersey Agricultural & Horticultural Society)

Mr. J. Godfrey (Royal Jersey Agricultural & Horticultural Society)

Deputy P.J.D. Ryan of St. Helier (Chairman):

Good morning, all. So, first of all, I think introductions are probably in hand. Could I ask you to introduce yourselves, please?

Mr. S. Le Feuvre:

I am Steve Le Feuvre, President of the R.J.A.&H.S. (Royal Jersey Agricultural & Horticultural Society).

Mr. R. Leith:

Hello, I am Richard Leith. I am Vice-President of the R.J.A.&H.S.

Mr. P. Houze:

Morning, I am Paul Houze. I am the council member of the R.J.A. with special responsibilities for breed improvement.

Mr. J. Godfrey:

And I am James Godfrey, the C.E.O. (Chief Executive Officer) of the R.J.A.

Deputy P.J.D. Ryan:

Okay. Right, my introductions on our side, I think you probably are familiar with Deputy Martin, our officer Sam Power, Constable Hanning, Constable Butcher, and Professor Hall here on my right. I am Deputy Patrick Ryan. Okay, so we are being recorded and that is not because we are trying to catch you out or anything, but it helps us to obviously record properly and get transcripts of what is said so that we can ... you know, for the record. Thank you. So, shall we start, this is a huge area that we are trying to get evidence upon and the question plans that we have in front of us, the questions that we want to ask you, some of them are wide-ranging and if I could ask you to please limit the answers to the wide-ranging questions to a reasonably short time because there will be a number of then more detailed areas that we would like to go into. I would like to start off by really linking questions 1 and 2 - I believe you have had transcripts of the questions anyway - which is a generality of the reasons behind the move to lift the ban on importation of bovine semen into Jersey and what are the implications of not lifting the ban; the 2 are linked together. So could I ask you to kick off with that one; I am not sure who is going to be starting.

Mr. P. Houze:

It is a 3-part answer, really. First of all and crucially, it is a question of raising the efficiency of the dairy cows in the Island. As you well know, dairy farming has struggled with profitability for a number of years, and the first point we really want to make is this is very much a part of the recovery roadmap which was set out by the industry in 2003. We feel that we can prove beyond doubt that the current Island population falls well behind the international population of the Jersey breed, and one of the fundamentals is that we consider there to be one Jersey breed on this planet and, you know, we take great pride that that breed originated from this Island. We know that a small majority, but a majority all the same, of farmers are supporting us and they produce the lion's share of the Island's milk. Also, there is a question of pride. We as cattle breeders need to have a sense of pride that our herds rank among the best in the world. So that really sums it up, I think.

Deputy P.J.D. Ryan:

Thank you. Okay. The concern that we are getting circulates around the pedigree of the Jersey cow and losing it. What would the safeguards be?

Mr. J. Godfrey:

Okay. There is a 2-fold safeguard. Firstly, we are quite convinced and clear in our own mind that the real way to establish purity of something is, in fact, its pedigree. It is a pedigree registered animal. Its pedigree is registered within an official registry; we call it the herd book, most countries do call it the herd book. The integrity of that herd book is paramount to us. All countries that we associate with, particularly with the Jersey breed, take the running of their registries and herd books equally as seriously as we do, so we are very content that if we ask for certification from a herd registry in another country,

Canada for example, if we ask for a 7-generation pedigree of an animal to be -- of a bull of whom semen could be imported from, we are very content that that pedigree is reliable and accurate. That is the paper certification. There is a check to that. We would also require D.N.A. (deoxyribonucleic acid) testing. So we would establish that semen coming in from that bull does belong to the bull it was collected from. So we think that combination provides the belt and braces approach to ensuring the integrity of our herd book is maintained so our pedigree status is of the highest order and, therefore, there is no question over purity issues as far as the Jersey breed is concerned.

Deputy P.J.D. Ryan:

Why 7 generations? Why not 10 or 5?

Mr. J. Godfrey:

We felt there was a -- we had to draw a line at some point and what is the right number? But normally when you produce a pedigree for an animal it is a 3-generation pedigree. That is a sort of standard, industry standard, to produce pedigrees. So we thought by doubling that you in effect have a 6-generation ancestry on show for any particular animal. We thought that was reasonable. The international standard for pedigree happens to be 3 generations, so we are actually double in excess of that. In many cases, these animals can be traced far further back than 7 generations and if it were not for the fact that our herd book was only established in 1866 and the American registry was a couple of years later, we would be able to establish their pedigrees right back to the Island in the first place.

Deputy J.A. Martin of St. Helier:

Can I just have a quick supplementary? I think it is covered in question 14. Have you got any idea which countries you would go for, I mean, if the importation was agreed to? And then what controls do you envisage to avoid excessive use of semen from a very small number of imported herds -- semen imported from herds?

Mr. J. Godfrey:

Well, can I answer the first part; you might want to pick up on some other parts. But I think the main populations that we would be looking to would be the U.S.A. (United States of America), Canada, Denmark, possibly Australia, possibly South Africa, possibly the U.K. (United Kingdom), but certainly those 3 countries would be the main ones.

Mr. P. Houze:

Possibly New Zealand.

Mr. J. Godfrey:

That deals with the countries, if you want to pick up on the usage.

Mr. P. Houze:

Yes. I have a double role. As well as sitting on the council of the R.J.A., I am also chairman of Jersey Island Genetics. Jersey Island Genetics is a wholly owned subsidiary of the R.J.A.&H.S. and we have at times discussed how the importation would best take place. We feel it is not the role of the Society to breed cattle for individual cattle breeders. We are there to help to facilitate and to advise, if necessary, and we think it is going to be necessary particularly in the early stages to give, you know, free advice and to help breeders along. Because you can divide breeders into 2 groups, really: those that are very, very clued up and well aware of the international Jersey genetic scene and others that have not got such a good idea. We want to make sure that everybody is on an equal footing, so we have one member of staff who has had many years' experience, not only in the Island but outside the Island, and he would be there to advise. Breeders will be free, as we see it, to import any bull they wish and that is what effectively the law will say. However, the Society has very, very clear rules and guidelines as to which progeny or progeny from which bulls they will register in their herd book. By virtue of the fact that registered animals are a lot more valuable than unregistered, we would envisage that people will ... breeders will first check out the pedigree status, for instance, as James just outlined, and the suitability of bulls for the purpose of continuing the Jersey herd book, which as we have often stated must remain sacrosanct.

Mr. S. Le Feuvre:

Can I just come in here as well? At the present time we do not have any rules or regulations on which bulls local breeders use, so the situation would be exactly the same. So it is no different to what it is now.

Professor S. Hall:

If I may come back to that point you have just made about registration, does it mean there is some discretion as to registration when the calf has been seen?

Mr. S. Le Feuvre:

No.

Mr. J. Godfrey:

There can be, yes. If we feel -- our herd book rules are very clear. If we feel there is any possibility of a fraudulent entry we have the right to D.N.A. test and if we find discrepancy we will exclude the animal from the herd book.

Professor S. Hall:

So an animal that has been ... whose mother has been on the Island for as long as you like, then

inseminated with semen from an authenticated bull from overseas, might then not be accepted for registration?

Mr. P. Houze:

No, the ...

Mr. J. Godfrey:

Sorry, I do not quite understand the question. If the mother is on the Island and registered in the herd book and the bull is also registered in the herd book ...

Professor S. Hall:

Is, of course, from semen from overseas.

Mr. J. Godfrey:

And registered in the herd book, importantly, first.

Professor S. Hall:

Yes, it would have to be in order for it to be imported, yes.

Mr. J. Godfrey:

Precisely. Then that subsequent registration would be permitted, yes.

Professor S. Hall:

Well, sort of automatically? But I thought ...

Mr. J. Godfrey:

Yes.

Professor S. Hall:

Yes, so when you say there is discretion as to registration, it relates to some mistake, shall we say?

Mr. J. Godfrey:

Well, there is no compulsion to register.

Professor S. Hall:

No, but discretion to accept the registration.

Mr. J. Godfrey:

It is not a legal requirement. The encouragement to register comes from 2 directions. Firstly, there is the value attached to pedigree stock over non-registered pedigree -- non-registered stock. Secondly, there is the requirement from the milk marketing organisation that they only purchase milk from herds which are fully registered in the herd book. So the requirement to register comes from a marketplace, if you like. It is a powerful incentive to maintain the register. There are non-registered animals in the Island now.

Professor S. Hall:

Right, yes, okay. I see. So I was really rather proceeding on the basis that you had some discretion not to register an animal because it did not look right.

Mr. P. Houze:

We have got that, but the overriding point that we should make is that we will have to enter a Canadian or a Danish bull into our herd book prior to us being able to accept progeny as registered pedigree.

Mr. J. Godfrey:

I think we have always got to be a little careful when you say it does not look right. How an animal looks and whether it is pure pedigree is not necessarily the same thing. The Jersey breed by nature comes in quite a wide variety of forms right through to almost pure black and white. They can appear like that. It still is a pedigree Jersey.

Professor S. Hall:

Yes, okay, thank you. Can I carry on?

Deputy P.J.D. Ryan:

Yes, please do.

Professor S. Hall:

You mentioned about the trustworthiness of overseas pedigree registers and pedigree registers in general. Is it true that fraudulent entries have never occurred in herd books? I am thinking of a study done in the early days of cattle blood typing by Stormont in the States where he found I think it was about 20 per cent of sheep pedigree entries and 10 per cent of cattle pedigree entries were, in fact, false.

Mr. J. Godfrey:

I think when you go back historically that is possibly true, and when I say -- when you say fraudulent, they may not have been intentionally fraudulent, they could be simply a case of misidentification. What has changed dramatically the integrity of herd book registers has been D.N.A. testing. Most of the populations or the populations we have been looking at all undertake routine regular D.N.A. testing to

establish parentage for bulls for semen collection. So that is one of the most powerful tools for establishing the correctness of a registration.

Professor S. Hall:

Yes, okay, but the D.N.A. techniques have been widely available and used only for what, 3 generations, 2 generations?

Mr. J. Godfrey:

Well, yes, I suppose.

Professor S. Hall:

Before that you had cattle blood typing on the basis of immunology and that started in the 1960s, but even so there is still quite a gap where, you know, something might be in the pedigree and it might not actually have been proved.

Mr. J. Godfrey:

Well, it is possible but it is a question on focusing on whether the glass is half full or half empty. The point is that pedigree cattle breeders whilst in the past may have tried to ... going back a long way, there may have been an advantage in trying to register animals that were not who they say they were. I think these days we are so much more able to catch up with that kind of activity, I just do not really believe it happens. It certainly does not happen here. We do get cases here of animals being registered or put forward for registry who are not who they are, but that is a mistaken identity and those are ... the fact that we pick them up I think gives me the confidence that the system is robust.

Professor S. Hall:

Yes. I mean, the second part of question 3 actually is D.N.A. tests relating to no non-Jersey ancestry in a second generation pedigree, and I would suggest to you that such a technique does not exist. Parentage, yes, you have a letter from Weatherby's indicating that.

Mr. J. Godfrey:

Well, that is where -- you see, the D.N.A. samples go back a long way. I mean, the testing may not have been available for 3 generations, but we have D.N.A. samples in store that go back a lot further.

Professor S. Hall:

That will be semen, will it not?

Mr. J. Godfrey:

Semen or in some cases hair as well, hair samples have been taken, going back further than 3

generations. So there are -- I think it is possible to establish to an acceptable level that animals are who they say they are.

Professor S. Hall:

That is on the Island you have these samples?

Mr. J. Godfrey:

And overseas. I mean, certainly semen collection centres have been keeping D.N.A. samples of animals going back a long way. I mean, we could do a D.N.A. profiling of every bull we have ever collected in the Island.

Professor S. Hall:

Yes, definitely with the semen, but I am thinking of some cow, some Guernsey cow or some Brown Swiss cow out in the States that featured in a pedigree and was ascribed to some other cow.

Mr. P. Houze:

I think when you have the experience of travelling around the world looking at Jersey populations, as many of us have, it does not matter which country you go to you see a dedication which has lasted not one but often 3, 4, 5 generations of people, of cattle breeder, and the integrity of those herds. Now, nobody can ever rule out, as you are quite rightly saying, that a certain cow way, way back in the ancestry is not by that particular bull, but what is highly unlikely is that it is by a bull from another breed. The same could apply for Island animals but ...

Professor S. Hall:

Yes, I am sure you are right, yes.

Mr. P. Houze:

Many of the herds, many of the famous herds in the United States, Canada, you know, have only kept Jersey cows on their farms and it has been a ... you know, not a lifetime's work but the work of several generations.

Professor S. Hall:

But they have operated grading registers by which cows can come into ...

Mr. P. Houze:

The grading registers are something completely different. They were introduced in the early 1970s, I believe, to expand the breed and they are pretty irrelevant when it comes to our choice of bulls to re-enter or genetics to re-enter the Island. They are transparent. The grading up process is all above board

and easily identified when, indeed, we as the Society go out and check a pedigree of a bull. So that if a graded up animal is in the ancestry it is quite clear and our rules prevent that bull from siring registered stock in Jersey.

Professor S. Hall:

Okay. So, right, that is ...

Deputy P.J.D. Ryan:

Just hang on, sorry, Professor, just for a second, what is a graded ...?

Mr. P. Houze:

A graded up animal, there are 2 types of grading up. One of them is where a Jersey type animal, for all intents and purposes a Jersey cow but an unregistered Jersey cow, say, in Canada, is brought forward for registration. She has to be bred to a pedigree Jersey bull and it has to be continued for 4 generations before that animal is then registered as pure pedigree. So she goes up through a grading process. There is also a system ... and that system does not indicate that there is an animal of another breed in there necessarily. There is another genetic expansion system where a Holstein cow or a cow of another breed, shall we say, can be mated to a Jersey bull again for 5 generations and on the 5th generation ... I think it is, sorry, the 6th generation, the animal is then registered as pure Jersey. Now, in that instance, again it is above board, it is totally visible in the pedigree and for the purpose of registering animals in the Island, that animal would be excluded.

Deputy P.J.D. Ryan:

Is it flagged for ever?

Mr. J. Godfrey:

Yes.

Mr. P. Houze:

It is, absolutely, because as the grading process goes through each generation is given letters, a prefix before its name, to indicate that the origins of that line were not Jersey.

Deputy P.J.D. Ryan:

Okay.

Professor S. Hall:

So a bull with a graded up animal in his pedigree would not be acceptable?

Mr. J. Godfrey:

Correct.

Mr. P. Houze:

Not for the Island, entry to the Island.

Deputy P.J.D. Ryan:

You would always know?

Mr. J. Godfrey:

Yes.

Mr. P. Houze:

We would always know.

Deputy P.J.D. Ryan:

Until the end of time?

Mr. J. Godfrey:

Yes.

Mr. P. Houze:

Yes, because that only really got going -- the U.S.A. were the first to do it. It has since been allowed in New Zealand and New Zealand would be the country where it is probably most prevalent and that would severely restrict the amount of New Zealand bulls that would be eligible for entry into the Island.

Deputy P.J.D. Ryan:

Okay. So I think the question is in very simple layman's terms we can rest assured that there would be no access to a compromised gene pool that way?

Mr. J. Godfrey:

Yes. To put it another way, we can be rest assured that the integrity of our pedigree Jersey herd book will be of exactly the same status as it is now.

Connétable P.F.M. Hanning of St. Saviour:

Could I ask a supplementary on that? Can that be proved by D.N.A. testing? Would that be picked out?

Mr. P. Houze:

I do not believe it can be at the moment, but D.N.A. testing is, although it is well advanced and it is continuing to develop, as I understand it and I am certainly no expert ...

The Connétable of St. Saviour:

So, in fact, you would only pick this up from the paperwork, not from ...?

Mr. P. Houze:

We would pick that up from the paperwork.

Mr. J. Godfrey:

It is a combination, yes, it is a combination.

Mr. P. Houze:

But if a mistake had taken place 8, 9, 10 generations back, the science would indicate that there is not going to be much D.N.A. input from that rogue animal, if it was there. We feel we are taking a belt and braces approach to maintaining the integrity of our herd book.

Deputy P.J.D. Ryan:

[**Aside**] Okay. The conversation I have just had with Professor Hall was that question 4 we have information on, so I do not intend to spend too much time on it, unless specifically there was something that you gentlemen ... because you have seen the question, do you want to make any comment on question 4 very quickly?

Mr. P. Houze:

Yes.

Mr. J. Godfrey:

I think the standard of D.N.A. testing we use is through Weatherby's, which is ... [**Interruption**]. Sorry, I was wanting to finish off number 3 about D.N.A. testing.

Deputy P.J.D. Ryan:

No, let us finish 3, sorry.

Mr. J. Godfrey:

The standard of our D.N.A. testing which we use, which I am sure you know is from Weatherby's, is to a very high standard. It is 16 micro-satellite locations, which is in excess -- normally it is about 6 or 7 people would use, so they have gone to a far -- got a far higher degree of accuracy. They would say it is excess of 99 per cent. I believe it is 99 to 4 decimal places accurate on positive tests and 100 per cent on

a negative test. So if the parentage is not who it is, it is 100 per cent certain it is not who it is. So it is a pretty good, pretty reliable measure, I think.

Deputy P.J.D. Ryan:

Right. Question 4, then.

Mr. P. Houze:

In hindsight, I think the number of 5,000 which was submitted in the report or the proposition was not a mistake but it was -- we would be better not using that figure of 5,000. But the point we want to make is that we are dealing with a dynamic breed of domestic dairy cow; we are not dealing with an endangered species of wild animal. With all due respect to the submissions that have been given by zoological experts and people who are very, very well qualified in sustaining wild populations, we are not really in that game. We are more concerned with progressing our dynamic breed. One of the points we would like to make, it is a breed which is changing. If you saw the cows that as you can see in the paintings and early photographs of Jersey cow at the turn of the, you know, 19th, 20th century, you would see a completely different cow to what you see in our fields today. She has progressed and that is the point that has to be made with question 4.

Mr. J. Godfrey:

Can I just illustrate the 5,000? I am sure you would know exactly where it comes from, Professor Hall, because I believe it is the level at which the European Union believe is a threshold below which they would start paying subsidies to farmers to keep breeds in existence. So it is a level that they deem to be one at which possibly a breed is becoming endangered and, therefore, should be encouraged to be maintained. So we have used that as an illustrative figure that in the European context they consider 5,000 animals as a warning light; we consider 5,000 animals to be more of a minimum to run a competitive breeding programme and we are now on some 3,000 animals.

Professor S. Hall:

Yes, in the first submission it seemed to me there might have been some confusion with the concept of genetic effective population size and the size, you rightly say, that you need to have in order to have enough milk recorded animals. But that was made much clearer in one of the subsequent things so I do not have a problem with that issue.

Deputy P.J.D. Ryan:

So, moving on to question 5 on our list, what would be the impact on liquid milk import controls if the ban on importation of semen were to be lifted and have you taken advice from anyone who can give you a definitive answer?

Mr. P. Houze:

Yes, we have taken advice in league with the Jersey Milk Marketing Board, Jersey Dairy, and with respect, Deputy, I think they would be best qualified to give you all the detail because that was one area where the Milk Marketing Board had a huge amount of input but we as a society were in on the discussions we had with Economic Development and others.

Deputy P.J.D. Ryan:

Okay, so we are talking to the J.M.M.B. (Jersey Milk Marketing Board) soon so we will deal with that one. So, coming back to question 6, which is the disease control, what controls would you put in place? Now, what we are talking about here is ... and I think we are talking about 2 different things because there is also another question which talks about disease control.

Professor S. Hall:

At 18, but perhaps that is a separate thing.

Deputy P.J.D. Ryan:

We believe there are 2 separate issues here. One is the disease on importation and the other is production diseases.

Mr. J. Godfrey:

Sure. If I deal with disease on importation, the main method in which countries prevent disease access through movement of livestock or germ plasma is through ensuring that the regime under which it is collected is undertaken to the highest health standard. So you have semen collection centres become high quarantine stations in their own right. So bulls entering those stations have to go through a series of tests, and these are usually established by the O.I.E. (which is the International Organisation for Animal Health). There are a standard set of protocols which they recommend. The E.U. (European Union) has adopted those through Regulation 88/407, which is exactly the same, it mirrors those requirements. So bulls entering stud have to go through a battery of tests to establish freedom from these diseases. They are then quarantined for a period of time before going into the actual collection area. So they are then collected under that quarantine status; they are re-tested regularly through their collection programme and then tested again on exit from the station; then the semen is again held in quarantine for a further 60 days or so. Should the bull develop any diseases following that, then that semen is still held in quarantine, so that the whole emphasis to prevent disease coming in through semen is done on the basis of the collection centre being of a very high quarantine status.

Deputy P.J.D. Ryan:

If I was a young Jersey farmer that maybe was a little bit foolish and I just wanted to import some bull semen from a particular herd somewhere, if I said I wanted to, you could stop that happening?

Mr. J. Godfrey:

Yes, the main way that would stop happening -- trade within the European Union is on a certified basis, so there are health permits that accompany shipments of semen. So should a shipment of semen arrive in the Island it would go to a quarantine store where the States Veterinary Officer would want to inspect the paperwork, that it has been collected according to those protocols.

Deputy P.J.D. Ryan:

Because what I am saying is surely there would be a variation around the world of better A.I. (artificial insemination) centres and maybe ...

Mr. J. Godfrey:

Not really, no, they are all -- in order to undertake collection for international trade they have to be licensed to do that. So that requires routine inspection by government veterinary authorities that they are -- their record keeping is up to date, their test protocols, testing regime is according to standard. Without that they do not get their licence to collect, so it would have to come from a licensed collection centre, it would have to be -- the semen would have to have been collected according to the international protocols as well, so that gets it into a can ready to ship, I suppose, if you like. Then, having been shipped, on arrival here it will be held here until the States of Jersey Veterinary Officer signs it off as being okay to move around.

Deputy P.J.D. Ryan:

How would he decide that it was okay?

Mr. J. Godfrey:

Through this international protocol of testing.

Deputy P.J.D. Ryan:

I mean, he could look at the protocol, he could look at the paperwork and look at where it has come from and all of those ...

Mr. J. Godfrey:

These are all signed off by vets.

Deputy P.J.D. Ryan:

Is there a backstop? Is there a sample, an audit ...?

Mr. J. Godfrey:

Yes, all the test certificates are all available on request, so if the States Veterinary Officer here wanted to dig deeper than was normally done, she could ask the A.I. centre where the bull was collected to see the test certificates and that the bull was sampled for a particular disease and it passed the test positive or negative and it was clear from the disease. She can ask for all that and I would strongly recommend, actually, that the panel do call the States Veterinary Officer to ask her about that because I think the one thing she would say to you, I would suspect, is that as a professionally qualified veterinary surgeon, it is on her professional qualifications that she signs off that the testing regime was correct. She is relying also on counter-signatories from a vet in the other country.

Deputy P.J.D. Ryan:

What we are doing is we are probing the possibilities. We are probing the possibilities of something ...

Mr. J. Godfrey:

I think the shorter way to answer that is if there was such a risk in it, there would not be millions of units of semen transported around the world as there is today.

Deputy P.J.D. Ryan:

Okay. I mean, I hear your answers. Obviously I am not an expert in the field, but I am taking from experts that you clearly feel that the risks are -- what would happen if something did happen?

Mr. P. Houze:

Well, I think you have to -- again, we have had experience of travelling around and certainly Richard and myself have visited 2 of the A.I. centres, one in Canada, one in the United States. These are huge multi-million dollar operations and, of course, the Jersey section in these A.I. centres is a very small part. I mean, when you go to Select Sires in Ohio, for instance, they have 700 bulls on site. There would be maybe 40 or 50 Jersey bulls there. To get in there is high security. You certainly cannot get anywhere near what they call their export barns or the international barns because they have the quarantine status, but when you go there you see the size, you know, the size of the business. It is international, it is a multi-billion dollar business. If there was any risk it would have been dealt with. And, you know, Jersey is obviously going to adopt the European standard, which is EU88/407, which is one of the most stringent in the world.

Deputy P.J.D. Ryan:

So Jersey's little A.I. centre, do we comply?

Mr. P. Houze:

No, we do not comply.

Mr. J. Godfrey:

Well, our old centre used to. The Island used to have an international collection centre here and it was licensed by what was then the Ministry of Agriculture. It was licensed to this international standard. But that was closed about 5, 6 years ago and our local centre now does not comply. So we would not be able to collect semen here and export it anywhere in the world. What we have been doing in recent years since the States closed the export centre, if we have wanted to collect semen for international trade, we have actually sent the bull as a live animal to England and put him into a collection centre, quarantine collection centre in England.

Deputy P.J.D. Ryan:

I see.

Deputy J.A. Martin:

Why was that closed? Could you for the record ...?

Mr. J. Godfrey:

I think government cutbacks, I should think.

Mr. P. Houze:

Cutbacks, cost savings at the time.

Deputy J.A. Martin:

It has nothing to do with where ...?

Mr. P. Houze:

No. It was partly that, partly that, but the main reason ...

Deputy J.A. Martin:

You know what I was going to ask you?

Mr. P. Houze:

The main reason was there was no demand.

Deputy J.A. Martin:

That was my question; we have been told this. So you are not going to collect and be of international standard if nobody wanted our bull semen exported, is that true?

Mr. J. Godfrey:

That was certainly the analysis of it. I mean, I do not know, it was costing a half a million pounds a year or something to keep an export standard A.I. centre here and we were not exporting any semen.

Deputy J.A. Martin:

Thank you.

Mr. J. Godfrey:

I think the other way to look at the disease issue, I mean, if you look into the U.K., the last 3 outbreaks of a serious bovine disease have been caused by factors which had nothing to do with semen import, it was ... the diseases can come in on the wind.

Deputy J.A. Martin:

Could I just ask a supplementary to get my mind clear? When did the, let us say, demand of our semen being sought after to go around the world, when did that start to decline?

Mr. J. Godfrey:

I think it is better to say I do not think it was ever really there. Certainly in the 1970s and 1980s -- I understand you will be seeing Derek Frigot who is coming to meet the panel, and he will be the best person to advise you on that. He was heavily involved in it at the time. There was some demand back then, but I got involved about 15 years ago and it was very much dead in the water then.

Deputy J.A. Martin:

Right, fine. Thank you.

Deputy P.J.D. Ryan:

Okay, anything else on ...?

Mr. P. Houze:

To give you some inkling as to how bad it really was is that during the very late 1990s, probably 1997, 1998 time, we were desperate to get our Island bulls sampled on an international population. We effectively gave away semen to 3 or 4 countries to see if they would put some of our bulls, which we rated at the time, see how they came up on the radar there under their testing schemes, and we literally had to give that semen away.

Deputy P.J.D. Ryan:

Okay. Moving on and referring to Dr. Bichard's report again, question 7, the Island herd. It states that the Island herd is 15 to 20 per cent behind the genetics of Jersey herds internationally in terms of milk yields. How was that figure derived, taking into account husbandry and the environmental conditions in

Jersey and elsewhere? I suppose there is a second part to that question, which is when you think that the Jersey herd does not operate in the global market from a liquid milk point of view, does it matter?

Mr. P. Houze:

I think it matters for the consumers who have to purchase our milk. If we are not competitive and they see the price of milk in Jersey different to elsewhere, I think that is a consumer issue and it is an issue which the Milk Marketing Board, Jersey Dairy, take very, very seriously. So we have to in our opinion restore, you know, the efficiency of our animals. Coming back to the first part of your question about how you can compare our Island Jerseys, whether it be for production, whether it be for conformation or whatever, we have to really try and get across to you how we evaluate animals. The one thing that opponents of the importation try and put across is that we are trying to compare milk yields that are achieved under different environmental conditions with our own and that we refute. You simply cannot compare a population in, say, you know, United States, some areas of the United States such as California, where cows are kept in feed lots, they never see grass, they are fed very high quality rations, they have a different climate, they have a whole set of different disease issues, you cannot compare the performance of those animals with animals elsewhere. So we rely on genetic evaluation. For instance, for milk we would use a measurement called P.T.A. (which is predicted transmitting ability), and that is assessed by comparing animals within their own herd. It is a contemporary comparison. In the old days it used to be called contemporary comparison system. P.T.A. is a much more sophisticated method. So you are actually comparing a bull's progeny with the contemporaries in the same herd or the same situation, same population. That way ... and, of course, each population in the world has a different base, so we have to compare the bases that we are working from. So if a bull is plus 500 litres for milk, what it is actually saying is that the daughters of that bull are producing 500 litres of milk more than their contemporaries.

Connétable G.F. Butcher of St. John:

Can I just ask a very simple question? If there was more adequate government subsidy to the dairy industry, would we be having this conversation?

Mr. P. Houze:

No, and the reason I can give you a very definite answer to that is that we have already done it. In 1987 we were advised ... do not forget 1987 was just 5 years after or 4 years after the States had voted not to import semen and we were, to say the least, in a bit of a vacuum. We invited a South African geneticist over called Dr. Jim Allen, and he worked very hard with us to try and devise a scheme where we could test our own bulls within the Island. I happened to be chairman of the Breed Improvement Committee of the day so I worked very, very closely with Dr. Allen. We set up a scheme which had States funding and the States were quite generous in that they were giving us a substantial subsidy for every completed lactation of a daughter in that programme. Even so, Dr. Allen's testing programme did exactly what it

said on the tin, we proved bulls. We did not prove as many as we would have liked to have proven, but we sustained that scheme for 18 years. And during that process what we actually proved is something which many of us claim we knew before, that not necessarily the genetic variation but the variation of capabilities of animals within the Island is very, very close. So our good bulls, our best bulls, are only a bit above average, our worst ones only a bit worse than average. That is purely because of the size of our population. Then our population was maybe 1,000 cows higher, and do not forget, when Dr. Allen came over I think the Island herds numbered over 100. I think it was 103 herds when I and my committee had to go round selling that scheme to Island producers. We had to call in 7 Parish Halls to sell that scheme to milk producers and it was widely accepted. We claim it was successful in doing what Dr. Allen said it would do, but all it did was confirm that it is not necessarily genetic variation, as perhaps Dr. Hall would expect, in that we have a lot of different bloodlines, et cetera, but the genetic potential is very narrow.

Mr. J. Godfrey:

Can I just come back to where you first started with that, comparing populations and how can you compare actual performance of an individual animal in Jersey, say, with a Jersey animal elsewhere? As Paul said, in most countries you cannot because the environmental conditions, feed conditions are different, and that is where the importance of genetic evaluations come in. But we can compare fairly accurately between Jersey cattle here and Jersey cattle on the mainland. Our environmental conditions are very similar; our feeding regimes are almost identical. As we put in one of our submissions, our concentrate feed even comes from the same mills as U.K. Jersey farmers. So there is quite a good direct comparison between actual milk performance in the Island and actual milk performance on the U.K. mainland. When you look at that actual performance and then relate it to the supposed genetic evaluation, there is a very, very close correlation which gives us confidence in the genetic evaluations.

Professor S. Hall:

Certainly, Chair, the Bichard report did go into this in considerable detail and the whole problem of comparing populations in different countries and under different husbandry systems is something he took very much on board and certainly the Island did not come out terribly favourably by the measures that were studied.

Mr. J. Godfrey:

It did come back well when we looked at the genetic conversions and we then put these bulls on test around the world, their actual performance within their test programmes related very closely to the genetic evaluation ...

Deputy P.J.D. Ryan:

I think I am getting a pretty clear picture. I do not know about the rest of the panel, but I am getting a

pretty clear picture that you are confident that you are comparing like for like, and I think you are also saying that you can take a pretty sound reality check, actually, by comparing U.K. and Jersey which are similar environmentally and feed-wise. Is that ...?

Mr. J. Godfrey:

Correct.

Mr. P. Houze:

Absolutely.

Deputy P.J.D. Ryan:

Does that sum it up fairly well? Okay. Shall move on from that? I suppose question 8, and I will read the question: "It has been highlighted in submission [one of the submissions to the panel] that it should be considered whether the improved milk yield elsewhere has impacted on things like fat content with the high fat, rich, creamy milk of the Island Jersey herd acting as a unique selling point." So the question is what would the effects be on other production and functional traits such as fat and protein content, longevity, temperament, fertility and disease control? Well, we have talked about disease control - we are going to talk about it a bit more anyway - but would you like to field that?

Mr. P. Houze:

Yes. There will be an impact and the impact will be positive. We are quite sure of that because at the end of the day each milk producer has to evaluate how he is going to structure his business and which cows are going to be the most profitable. Jersey Dairy currently pay not only for milk volume but for butterfat content and it would be a very unwise Jersey cattle breeder who disregards that in his breeding programme. The availability of bulls currently, particularly from but not exclusively from Denmark, have given the U.K. population quite a boost so that when you look at the movement of butterfat percentage in the milk in the U.K. population, it is rising whereas ours is, putting it kindly, just running level. So we see that as a positive but it is ... at the end of the day, as any cattle or animal breeder will tell you, when you are breeding animals you cannot get everything from one bull, but if farmers breed for butterfat they will have a much greater choice of bulls with an international population than they can locally. There are very few bulls that I could think of available locally who you could say are, you know, really great butterfat boosters.

Deputy P.J.D. Ryan:

We have just talked about butterfat and I think really what you are saying ...

Mr. P. Houze:

The same would apply for protein.

Deputy P.J.D. Ryan:

Yes, protein. I think what you are saying is that the sort of fondly held belief that, okay, our cows might not produce so much milk, but my goodness me it is better than anybody else's ...

Mr. P. Houze:

The basis for that is that a lot of people cannot get over the fact that in the 1960s, 1970s, the U.S.A., who to some extent have led the way in Jersey cattle breeding, did go down the route of breeding high production cows and that was all they thought about. It was production, production, production. Things have moved on certainly in the last 15, 20 years in the U.S.A. where again because a lot of the milk is used for cheese production, although some of it is sold as liquid, the huge majority is sold for cheese production where protein content is absolutely paramount and things have moved quite dramatically. So you see that even in that population which has always been regarded as the lower butterfat Jerseys are now very much on the move.

Deputy P.J.D. Ryan:

So this perception is not borne out by the facts?

Mr. P. Houze:

No, and we can make direct comparisons again with the U.K. who have, you know, really embraced the use of international genetics and the facts speak for themselves.

Deputy P.J.D. Ryan:

Okay, thank you. What about longevity - I suppose that means age, you know, how robust the cows are - and the temperament, fertility and disease control, those kinds of health issues to do with cows themselves?

Mr. J. Godfrey:

I think those other characteristics are particularly interesting. The more finite a particular quality is or obvious a quality is you are trying to measure, the easier it is to get reliable information about how particular bulls might improve a population. The most easy is milk yield because it is something that is very easy to measure. Characteristics and traits such as health or longevity are far harder to actually put a measure on per animal. So what is important there is the size of the population. So the more animals that are being sampled for those characteristics, the more reliable that information is going to be. So the Scandinavian countries are probably leading the world these days on assessing animals for health characteristics, and because they are doing it in that wider population you have the confidence that the data they are producing is reliable. If we tried to rank local Island bulls on health traits, the information really would be barely worth having. We are not measuring enough animals to give you confidence in

the data that is coming forward.

The Connétable of St. Saviour:

Can I just ask, in longevity, is that not a simple number of lactations? Probably that is an easy figure to work.

Mr. J. Godfrey:

Well, yes and no, because the actual deviation between bulls is quite small. So yes, there is a finite point at which the cow ceases its life, but because the difference between bulls is relatively small, you need it across a large number of cows to show where the difference actually is.

Deputy P.J.D. Ryan:

So I am not quite sure that you actually answered that question at the end as clearly as I would like for myself and for the record. Are we saying, then, that the cows in other places are more productive, they produce more milk, it is of a higher fat content and protein content and they are more healthy? Are we saying that?

Mr. P. Houze:

Yes, we are saying that and I answer that not as an R.J.A. member but as a dairy farmer. Richard and I milk over 200 cows each and obviously we have very close liaisons with our vets. Currently I would suggest to you that 75 per cent of our health problems with our cows on the Island are metabolic problems caused by cows being over-conditioned, carrying too much fat, carrying too much meat at the wrong time of their lactation, cows that have not produced well enough. Our farming procedures have kept pace with everybody else. If you come on to our farms you will see silage clamps, you will see the latest technology of producing feeds. We do a very good job there, I believe, but again we urge you to take advice from the States Agricultural Adviser who has had experience both outside the Island and in, so he can give you an assessment of how we stand as far as management is concerned. But coming back to disease, a lot of our disease problems stem from the fact that cows have not produced well enough and by the end of their lactation they are carrying too much weight. They re-calve again, as they have to produce milk, and being that they are over-conditioned or obese, if you like, you get liver problems. There is a huge incidence of fatty liver problems on the Island which you do not see in the international population because those cows have actually worked out a little harder, and that leads on to ketosis, acetonemia, milk fever and other problems.

Professor S. Hall:

Yes. So importing semen will sort this?

Mr. P. Houze:

I am absolutely confident it will because we have seen our colleagues in the U.K. ... and do not forget, we do travel across to the U.K. on to Jersey farms there and see how they are managing their cows so we can compare notes. We have been on to Jersey farms in the U.K. that have very, very little incidence of milk fever, which is hypocalcaemia. I can guarantee I can take you to farms on the Island, well managed farms on the Island, where the incidence is probably 50 per cent of the cows, either clinical or sub-clinical.

Professor S. Hall:

Yes, I am very interested in what you are saying because I do not think this features in any of the papers you have produced.

Mr. P. Houze:

No.

Professor S. Hall:

Why would that be? Would that be because you are going a bit further than you are comfortable with putting on paper?

Mr. J. Godfrey:

Just time. We could write a book on this but ...

Professor S. Hall:

Yes. I mean, the thing is, of course, I am not speaking for myself but I am perhaps articulating concerns a lot of people have, so please do not take this the wrong way. But, I mean, it is sometimes possible that when management is difficult, let us put it that way, that the genetics get blamed. I mean, you get this all the time, for instance, with dog breeders, you know, and I think the question that will be asked is, you know - and forgive me for being perhaps a little blunt on this - is that you have some problems with your management and you think these will be solved by changing your cow.

Mr. P. Houze:

I think the best person qualified to answer that is our States Agricultural Adviser.

Professor S. Hall:

Yes, exactly. So how does one get at that? Have things got more difficult, have you had more health problems, metabolic issues, currently than you have in the past?

Mr. P. Houze:

I think one of the issues is that in desperation to try and increase milk yields we have fed the cows more

than they can cope with genetically. We compare notes. We subscribe to all the U.K. and international magazines of cow management, et cetera. It is quite a complex issue, but in that attempt to take that yield that little bit more, we could be guilty of probably feeding, you know, that last kilo of concentrates too much and exacerbating that problem.

Professor S. Hall:

Yes, thank you.

Mr. P. Houze:

We are not blaming the cow. We are not -- we never blame our cows. It is a case of we are in control, we need an extra tool now to make her that much more competitive.

Professor S. Hall:

I think that is very helpful because in many ways that is one of the questions that will be asked. I mean, one thing that seems counterintuitive to the public is that, in fact, a cow does better when she is not perhaps as fat as she might be and, you know, the cow showing her bones and things is, in fact, in good condition for the job she is doing and that is something the public do not always fully understand.

Mr. P. Houze:

Well, I think that has been amplified in the last 2 or 3 weeks when we have hosted delegates at the World Jersey Cattle Bureau Conference who have gone around and seen a number of herds on the Island and the overriding comment that we have had back is: "My, your cows are in - how should I put it - very good condition. Our cows would be working a lot harder." It is often referred to as dairy type. We are not seeing enough dairy type. That means that our cows are not looking athletic enough, to put it in layman's terms.

Professor S. Hall:

Yes, thank you.

Deputy P.J.D. Ryan:

At 10.15 a.m. we are due a short break before 10.30 a.m. when we have the Jersey Milk Marketing Board. We are only probably slightly over halfway through. I know that the Jersey Milk Marketing Board are here. Are your time spans sufficient to allow us to ...? How are you ...?

Mr. A. Le Gallais (Jersey Milk Marketing Board):

We are in your hands, Chairman.

Deputy P.J.D. Ryan:

Okay. So I am not going to cause you huge problems if we overrun slightly?

Mr. A. Le Gallais:

On the basis that the timescale that you have given us, the timetable, is such that the people coming to meet you afterwards are the J.C.R.A. at 12.00 noon, there is no one else in between us?

Deputy P.J.D. Ryan:

Well, there is, yes. There is. Mrs. Catherine Vint is coming to see us.

Mr. A. Le Gallais:

Well, we are in your hands, but we too have a lot of questions ...

Deputy P.J.D. Ryan:

Okay. It is not going to cause you huge problems and you are going to have to rush off somewhere else. Okay. Right, let us move on to question 9 where we talk about a paper produced by Chikhi *et al.* We are talking about importation is only advised against in the context of reduction of inbreeding, but the paper also refers to genetic diversity and we have an email from a Professor Bruford, a very well renowned and respected geneticist and professor in this area, and he indicates that there is adequate genetic diversity within the Island breed if we are worried about inbreeding. I mean, because you are saying or I believe my understanding is you are saying that we need to import semen to avoid inbreeding?

Mr. P. Houze:

We have never said that.

Mr. J. Godfrey:

No.

Deputy P.J.D. Ryan:

I realise that. So there is a difference between avoiding the inbreeding side and genetic improvement for production purposes?

Mr. P. Houze:

Absolutely.

Deputy P.J.D. Ryan:

I think that needs clarifying because I think that certain members of the public, myself as well before I knew a little bit more about it, would confuse the 2. I think I would ask you to expand in this area for

the record, please.

Mr. J. Godfrey:

I would start off by saying it is quite interesting when you see some of these responses coming back. We are sort of damned if we do and damned if we do not. Jim Allen rather implies that we have not done our job well enough by we have not had a sufficiently intensive selecting programme to make the genetic gain we are looking for, and yet on the other hand Lounes Chikhi praises us for keeping genetic diversity. These are 2 forces that pull against each other. Genetic diversity we do have aplenty and we are not arguing that. What we are saying is if we want to keep up with international trends in cattle breeding and develop our cattle here to be as efficient as possible, that means having a very intensive selection programme. If we do that to the intensity that we are going to need and we still do not believe even if it was the highest intensity programme we could have here we still would not keep up with international trends, then we would be running into inbreeding. A good example of that is it really comes down to the standard distribution curve. If we want to breed from our top animals, if we breed from our top one per cent of animals in the Island, what are we talking, 30 animals? So if we keep doing that we will run into an inbreeding problem very quickly. I think it is credit to the Society and particularly the Breed Improvement Committee over the years that we do not have such a high level of inbreeding. They have managed that very, very well, but in doing that they have sacrificed genetic gain. So these 2 forces pull against each other. So I would accept exactly what Lounes Chikhi is saying but I put it to one side because we are not talking about preserving genetic variation. We can do that; we do that anyway. We do that through our cryogenic museums. We maintain genetic diversity. We have that safeguard. But what we are really trying to do is improve the genetic merit of the animals and that means intensive selection. What we are saying is we cannot do both at the same time.

Deputy P.J.D. Ryan:

So commercially you are between a bit of a rock and a hard place, really, in very simple layman's terms. Should this have been made more clearer, though, perhaps in the proposal to lift the ban? I mean, the question is should the proposal to lift the import ban take more account of this study and the studies that we have been talking about from Chikhi and also from Professor Bruford, do you feel?

Mr. J. Godfrey:

I think it is difficult for us to do that because we put forward ... or the industry as part of its roadmap for recovery delegated to the council at the R.J.A. responsibility for taking research into this particular issue, which we have done at length. Ultimately, we are pitching this proposition to whole different ranges of people, so when it would come to putting our proposal to Professor Hall, we would go into that in an awful lot of detail; when we are putting that proposal perhaps to the general public we have to word it completely differently because we are dealing with very different audiences here.

Deputy P.J.D. Ryan:

Okay. Right, unless there are supplementary questions ...? Okay, let us talk about another submission then from Dr. Stephen Funk, and he is the Conservation Biologist at Durrell, I am sure you are aware. Now, he strongly suggested collecting more data, relevant data, before making the final decision on importation and in submission also states that Durrell will be willing to assist in this process of collecting further scientific evidence. As the R.J.A. and H.S. what do you say to that? What do you feel about it?

Mr. J. Godfrey:

We have had a number of meetings with them, actually, and I do not want to be flippant about it, but I used to be a researcher myself and one of the classic ways of finishing a research paper is always to say: "Further research is needed." We have got an awful lot of information on this. I think the information we have got puts the issue beyond doubt. What we are very keen to do is monitor the herd going forward. What we do not see this as a process of is, yes, there is a change in law, we can import semen; now we forget all about it and we just go and do what we want. We have a responsibility to manage the breed in the Island and to monitor it carefully, and that is something we would very much like to embark on. Now, who we do that with, I think we would like to reserve that position at the moment and see who is best capable and best suited to do it, but I am sure we would be open to working with anybody on that.

Deputy P.J.D. Ryan:

Okay.

Mr. P. Houze:

But again it comes back to the difference between progressing a dynamic breed of domestic animal as opposed to an area where obviously Dr. Funk is an absolute expert in preserving small populations of endangered species.

Mr. J. Godfrey:

Just to put it another way, those people who -- those that we know are saying that they are against the principle of importing semen in themselves would be a sufficiently large population to maintain 100 per cent genetic variation, which I think you can do with about 200 individuals. So we do not see this as being a bar in any way to moving forward.

Professor S. Hall:

That takes us to question 19.

Deputy P.J.D. Ryan:

Yes, okay, let us move to question 19 while we are talking about it, that if semen was admitted would the Society be willing to operate or fund a long-term breeding advisory service for farmers not using the semen?

Mr. P. Houze:

Yes. There is a very simple answer: yes. We can prove that by suggesting that we have been doing it for a number of years now. We feel that the best decisions are well informed decisions and we see our role as informing breeders, never dictating which individual bulls they use because for the very reason of keeping diversity. You know, if Richard and Andrew want to use bulls that they particularly fancy to do a particular job in their herd, that is fine. They have to meet the criteria that is set by the R.J.A. for pedigree, et cetera, and obviously veterinary status, but we need to keep a genetic diversity. So if all 29 farms did something slightly different, that would please us, rather than us producing a portfolio of 6 or 12 bulls and say: "You shall select from just these."

Deputy P.J.D. Ryan:

The question was operate or fund. I suppose to the smaller farmer the latter of those 2 words is important.

Mr. P. Houze:

Well, by virtue of the fact that obviously the R.J.A. has access to -- one of our employees at the R.J.A. who is well qualified to offer advice and to go out and get information from wherever, I think yes, we are quite happy to ... we see that as very much a core role of the society.

Mr. S. Le Feuvre:

I think if I can just come in here as well, we are about to embark on a process of negotiating with the Economic Development Department regarding the services of the dairy industry, particularly A.I. milk recording, and we will probably put that in the package when we start discussing that in July and August as regards the funding of it.

Professor S. Hall:

Can I just make a quick point? It is simply that this might actually involve you in operating or have operated for you some genetic management package which would include things like current inbreeding and founder representation and things of this kind, which is, you know, your person could probably get to grips with but it might actually be more of a commitment in time than might appear at the moment.

Mr. P. Houze:

Yes.

Deputy J.A. Martin:

If I could just ask probably a -- the question you have answered is you will offer a service to people who do not want to use the semen. My question is, and it is a naïve non-understanding of the situation, they do not have to use imported semen, that is a choice, but will there be enough bull semen local still around if they do not want to?

Mr. J. Godfrey:

Yes.

Deputy J.A. Martin:

It is a naïve question but ...

Mr. J. Godfrey:

No, but yes.

Deputy J.A. Martin:

It is, you know, my understanding of they do not have to use it but there will be local Jersey Island cow bull semen that they can use if they want? Fine.

Mr. J. Godfrey:

Yes. Every bull that is collected in the Island has semen put aside into the cryogenic museum, so we have some 400-odd bulls in that museum now. Breeders have access to that on request because that is kept in the museum, but there are also stocks that are collected beyond that. I would not like to say what we have in stock at the moment, but I know up until a few years ago, couple of years ago when we embarked on this aid programme out in Rwanda, we had enough semen in stock to breed every cow in the Island for the next 40 or 50 years or something.

Deputy J.A. Martin:

Thank you.

Mr. S. Le Feuvre:

That is also -- I mean, that is in stock but obviously those breeders who did not want to use imported semen would breed their own bulls and then we would collect that semen as we do now for them. So it is a perpetuation of the whole thing.

Mr. J. Godfrey:

We very much have the capability to collect semen in the Island, we just cannot export it. So we do collect a number of bulls each year for local use.

The Connétable of St. John:

How far back does your stock go in terms of date?

Mr. P. Houze:

1967, 1968.

The Connétable of St. John:

It has not got an expiry date?

Mr. J. Godfrey:

No.

Professor S. Hall:

I think this leads naturally into question 11 ...

Deputy P.J.D. Ryan:

Yes. Do we need to go on to question 11 now?

Professor S. Hall:

Possibly not.

Deputy P.J.D. Ryan:

Okay, we will leave question 11 aside. We are aware of the progress that has been made with the U.S.D.A. (United States Department of Agriculture). Perhaps we will go into that in more detail later on because I think it is so recent that probably you are still to some degree considering it. Okay. Question 12 is quite technical and I am not quite sure, perhaps you could explain what open nucleus breeding schemes are for me. I suspect that came from you.

Professor S. Hall:

Yes, I created this question which is basically because, I mean, obviously you are well aware of all these situations, it is just that new breeding tools are coming up which might lead to genetic progress in ways that had not been anticipated, even quite recently. I mean, things like an open nucleus breeding scheme can lead to rapid genetic progress; marker assisted selection, you might find that you can get straight into genes that are sort of highly valuable. I mean, for instance, there is the beta casein issue which might be valuable, and whole genome scanning likewise. It might be that with these modern animal breeding approaches you might, although as you say your cows are pretty much of a muchness statistically, you might find there are some animals that are outstanding for some characteristic that is, in

fact, very valuable.

Mr. J. Godfrey:

Yes, I think that is true, although there are I think a number of things that feed into this. Anything is possible, probably, with an infinite amount of money thrown at it and an infinite amount of time to do it. Now, as far as I am aware, what has not been established in any small population is using marker assisted selection techniques in a small population and then managing inbreeding thereafter. I think you are right that the marker assisted selection is right at the cutting edge at the moment, but I do not think it has actually been applied into a small population in the same way yet. I think we would still -- my hunch is we would still run into inbreeding issues anyway. We are a small, very small, population here and I think the more intensely you select for any one characteristic we are back to these forces pulling against each other.

Professor S. Hall:

Okay, yes. I mean, there are statistical approaches whereby you can calculate the genetic progress at a given level of inbreeding using different breeding schemes, it can be done but, as you say, it might be a question of infinite resources. But the question remains: does the society have this as an open file, as it were? Is the society ...?

Mr. P. Houze:

Absolutely.

Mr. J. Godfrey:

Very much so.

Mr. P. Houze:

We are a very broadminded group of people. The council is made up of, you know, guys who have got a fair amount of experience but we are broadminded and we try and keep pace with new technologies and obviously, you know, a matter of weeks ago we were listening to Dr. Van Tassell from the U.S.A. who gave an absolutely fascinating paper at our World Bureau Conference and, you know, again that just opened our eyes to the possibilities in the future.

Deputy P.J.D. Ryan:

A sort of business-related question here: if we import semen, it has been suggested that we might be able to get into a position commercially of exporting heifers to the U.K. Do you think that is realistic bearing in mind how active the Danish ...?

Mr. P. Houze:

We have absolutely no doubt about it whatsoever. We just have to look at the situation right across the world, really, and look at the demand. The current demand for the Jersey breed is huge. Post foot and mouth, the demand in the U.K., a lot of black and white breeders decided ... not a lot, but a good number of black and white breeders decided to restock their farms with Jersey cows for the advantage of trying to increase their milk price because of component pricing. When one considers the graph of exports from the Island and consider that since 2001 11,000 Jerseys have been imported into the U.K. from Denmark that shows you -- that gives you some idea of the demand that is there. There is also demand in central Europe, and I am not an expert but the signs are that dairying capabilities of some of the central European countries is now on the up and we would suggest that between Denmark, the U.K. and ourselves, albeit on a much smaller scale, we may well be able to furnish some of that demand. It gives the Jersey dairy farmer another string to his bow. You know, the percentage of income that is achieved in the U.K. by U.K. Jersey farmers, some would claim that 30 per cent of their income comes from stock sales. You know, at the moment we are slaughtering 700 heifer calves per year at a day old because there is no demand for them. All it needs is a reliable sire for those calves and not all but a good number of those animals would be marketable.

Deputy P.J.D. Ryan:

Okay, thank you.

Deputy J.A. Martin:

Seven hundred a year?

Mr. P. Houze:

Seven hundred heifer calves.

Deputy J.A. Martin:

At a day old?

Mr. P. Houze:

A day old.

Deputy J.A. Martin:

Yes, and nobody wants them, really?

Mr. P. Houze:

We would love to keep, believe you me ...

Deputy J.A. Martin:

I know, I understand, yes, I understand that. This is a question I need to ask because people do not believe that. They think they are Jersey cows and they are all used and they are all out in the field, and this is me coming in as a total layman to find out that, you know -- that is fine, because it is what is done everywhere around the world, but you have a position here where the majority of these cows could, you are saying, become heifers for exportation and there are countries that are in demand of them?

Mr. P. Houze:

Yes, providing they are sired by a reliable bull that somebody knows something about.

Deputy J.A. Martin:

Thank you.

Mr. P. Houze:

You know, people talk about our uniqueness. This is one unique aspect of our situation because certainly I do not know of any other U.K. Jersey breeder who slaughters heifers to the same extent.

Deputy J.A. Martin:

Thank you.

The Connétable of St. John:

What sort of value would there be on a heifer?

Mr. P. Houze:

Well, let us start with the costs of rearing a heifer. You have to rear a heifer to 2 years of age before you can start milking her, and currently we estimate the cost to be about £600 to £650 per annum. The way things are going at the moment, I would not be surprised if that cost rises by at least £100 in the coming months because of the feed commodity situation.

Mr. S. Le Feuvre:

The amount of money that Jersey heifers in calf are fetching now in the U.K. ranges between £1,200 and £1,500 on the marketplace. So, I mean, at a cost of £600 or £700, maybe £800 to raise it, you can see there is a margin there worth ...

Deputy P.J.D. Ryan:

Yes, even with the shipping costs?

Mr. S. Le Feuvre:

Even with the shipping costs.

The Connétable of St. Saviour:

Can I just ask, going into that, the numbers you were giving, you were talking about the whole number of heifers across the Island. Obviously you would not necessarily be using imported semen for all of these; presumably some would be local semen purely to keep the cow in lactation and, therefore, you would not be expecting to export all?

Mr. P. Houze:

Well, it is a business ...

Mr. J. Godfrey:

That 700 figure is net of animals that are retained here for replacements. So that is literally a surplus figure.

The Connétable of St. Saviour:

Are you suggesting that you would use imported semen for all of the others? Because presumably without imported semen you would not be able to export?

Mr. J. Godfrey:

What I am suggesting is those farmers that want to take advantage of that market have an ability to do so, but to take advantage of that market they would need to be using top international bulls to achieve those prices.

Mr. P. Houze:

The other point we should make is that this would be the situation at the outset of importation. As the years roll by and our genetic status rises, we will be breeding our own bulls. So maybe even the first or even second generation of our breeding programme may revert back to some of our best cow families. I think the point is made very well by those opposing the scheme, that are opposing the importation, that, you know, we still have got some very good individual animals on this Island, some very good individual cow families on this Island, and that is something that we want to cling on to, it is something that we feel is of value, and with the use of imported genetics I do not think it will be long before Island cattle breeders are producing their own sons. That is why, leading on from a question that Deputy Martin posed a few minutes ago, the R.J.A. does not want to dismantle all the facilities and all the testing programmes that we currently run. We feel it is important that we continue them and if those who do not want to use imported genetics carry on as the same, we are happy to do that. We are also happy to continue testing local bulls.

The Connétable of St. Saviour:

Sorry, can I just come back to you there? Would you not need to go through a whole new regime of bull proving before you can start using that semen from local bulls for export?

Mr. J. Godfrey:

Yes, but we have a rolling programme of doing that. There is a rolling programme of young test sires coming in all the time.

The Connétable of St. Saviour:

Would you not need to run through several generations before ...?

Mr. J. Godfrey:

Yes, it would take a number of years. It is normally about 5 years to establish a proof on a bull.

The Connétable of St. Saviour:

Okay.

Deputy P.J.D. Ryan:

Right. I think we are getting close to winding up. Just a couple of quick things. Organic dairy production: some people feel that that is the future. What does the R.J.A.&H.S. feel about that?

Mr. P. Houze:

Well, organic is only as good as the produce produced and its marketability. It is not really a question that is associated with importation of semen except to say that because of the various constraints on feed and management style of the organic system, we would suggest that an organic farmer would be far better using an animal which is of high genetic merit than low genetic merit, but it is not really an issue which -- but you may want to probe the Milk Marketing Board on organic, but it is not really associated with importation of semen.

Professor S. Hall:

Yes, I think I generated this question and it really was a question of whether your cows you have at the moment would be well suited, as she is at the moment, for organic production?

Mr. P. Houze:

No.

Mr. J. Godfrey:

I do not think any -- what it comes down to is efficiency of production and you want cattle that are efficient converters of feed to milk. That is what we are trying to breed. Now, an efficient milk -- feed

converted to milk is efficient under an organic system or a non-organic system, so it is not related to the animal breeding.

Deputy P.J.D. Ryan:

Just one or 2 last questions quickly. There was a survey carried out by the Royal Association of British Dairy Farmers in 2006 which showed a very high proportion of dairy farmers did not actually know their full production costs. How do you feel the situation is in Jersey? That was in the United Kingdom. What do you say to that?

Mr. P. Houze:

Yes, in Jersey a good number of years ago we set up a farm costing service. Initially it was run by the States Department of Agriculture. In the last 5 or 6 years it has been orchestrated by the Jersey Milk Marketing Board. The Jersey Milk Marketing Board oversees it. The States Agricultural Adviser is the guy who assimilates all the figures which come in from farms. We have ... I cannot tell you the exact number of participants but it is a high proportion of farmers. We have had a consultant called Bruce Woodacre, who you may know, come over about 6 or 7 years ago and set up a costing scheme. It was our own costing scheme. We felt it had many advantages over many of the existing ones which were prevalent in the U.K. The costs are broken down on a monthly basis; they are submitted to Mr. Jackson at the Department for the Environment. He is the only person who has access to each individual's figures, but we have 3-monthly reports and currently - the report was published last week with the figures up to the end of March - that indicates that the type of profit that an average Jersey dairy farmer is making before tax, interest, depreciation and reinvestment is 3.7 per cent of turnover. That is totally unsustainable. Our target that we were set at the outset was 30 per cent of turnover because the level of reinvestment on any enterprise, particularly a farming enterprise, is such that ... we settled a couple of years later and said: "Let us make 20 per cent a target." But I think at its very highest - and I know John is sitting behind me - at the very highest I think we got up to an average of 15. But at the moment we are in an unsustainable situation. Importation of genetics is one but a very powerful part of the recovery plan which was set in place by the industry to, you know, rectify that situation.

Deputy P.J.D. Ryan:

Okay. I think we are going to conclude with one last final question, which is more of a legally based one. It is to do with the convention on biological diversity that is extended to Jersey. It involves an undertaking to protect farm animal genetic resources. This is a very general question as to whether you feel that the importation of bull semen into Jersey actually goes against this obligation in any way.

Mr. J. Godfrey:

I think my starting point on that would be that without a viable working population, we have nothing to sign up to the convention for in the first place. A profitable dairy industry is the bedrock of keeping a

viable population in the Island. Whatever we need to do that we need to do, but bearing in mind the need and the wish to preserve genetic variation and to bank up whatever might be there in terms of particular makeup of the genetic structure that we could be changing through the cattle as they are selected, we think the best way, the best of both worlds, is to keep a vibrant working cattle breeding population and a genetic museum as a backup as well. That is what we do; that is what we are proposing.

Deputy P.J.D. Ryan:

Any further questions?

Deputy J.A. Martin:

No, I am fine, thank you.

Deputy P.J.D. Ryan:

Well, gentlemen, thank you very, very much for your time. I am well aware that we have overrun by about half an hour and I apologise for that. Thank you for your very full and frank answers, and we look forward to seeing you at the public event - where I am sure a lot of these questions will come out all over again but nevertheless that is why we are here - tomorrow evening. Thank you very much.