



Report SOTRANS

Drivers state-of-the-art

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Abstract

Background and experiment In the project SOTRANS, we want to describe the current status of sow transport in Denmark. This should be used as background knowledge when planning the main experiments in the project. Therefore, drivers were personally interviewed at Danish Crown, Skærbæk.

Results The drivers are a mixed group as they are divided into a very experienced and a less experienced group. They are all male and with a huge variation in age.

For many of the drivers, rejection of sows before transport is quite frequent and is mainly due to considerations of welfare or risk of being fined. Lameness and other leg problems are most often the reasons for rejecting the sows.

Placing sows individually on the lorry is not very prevalent, and several of the drivers finds it gives an extra workload.

To optimize the transport of sows, a new and more flexible design of the ramp was mentioned by several of the drivers.

Methodology

Questionnaire A questionnaire was developed using a combination of close-ended and open-ended questions. The full questionnaire can be seen in the appendix. Drivers were interviewed personally after unloading sows at Danish Crown, Skærbæk. A total of 25 out of the potential 30 drivers answered the questions.

Statistics For all questions, a frequency analysis was performed to describe the distribution of the data. A Pearson correlation analysis was made between 'years since the transport course' and 'number of animals rejected at the slaughterhouse'.

State-of-the-art questions

Drivers All 25 drivers were male, with an average age of 44 years. There was a relatively high age difference between the drivers, the youngest being 25 years old and the eldest 66 years old. The frequency distribution according to age can be seen in Table 1.

Table 1. Age of drivers of sow transports.

	<35 years	35 years <= and <50 years	50 years <=
Number	8	8	9
Percentage	32%	32%	36%

More than half of the drivers were very experienced (more than 10 years), while the rest had up to 5 years of experience (Table 2). The main part had taken the transport course less than five years ago.

Table 2. Years of experience.

	Less than a year	1-5 years	6-10 years	More than 10 years
For how long have you worked as a driver on sow transports?	3 12%	8 32%	0 0%	14 56%
How long ago did you take the transport course?	4 16%	10 40%	4 16%	7 28%

Sows There are several factors to consider when deciding if a sow is fit for transport. Figure 1 shows the frequency of the factors that the drivers take into consideration. Some drivers had listed more than one option.

Important factors when deciding if a sow is fit for transport

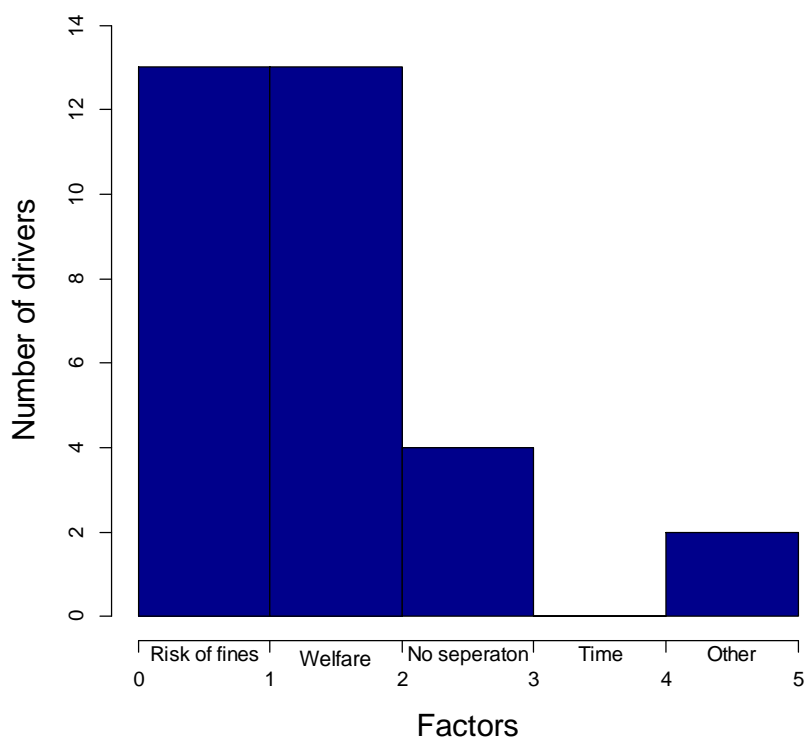


Figure 1. Important factors for drivers when deciding if a sow is fit for transport. The Y-axis is the number of drivers. There were 25 drivers, some answered more than one factor.

As can be seen, the important factors considered by the drivers are primarily the risk of being fined and the sow welfare. Only a few drivers answered others, meaning that the most common factors were options in the questionnaire. The other factors mentioned by the drivers include, but are not limited to, concern for whether the sow was fit for transport, if the sow showed signs of disease or if it would be better to kill the sow at the farm.

The frequency of which the drivers had sows rejected at the slaughterhouse can be seen in the figure below.

Frequency of times you have had a sow rejected at the abattoir

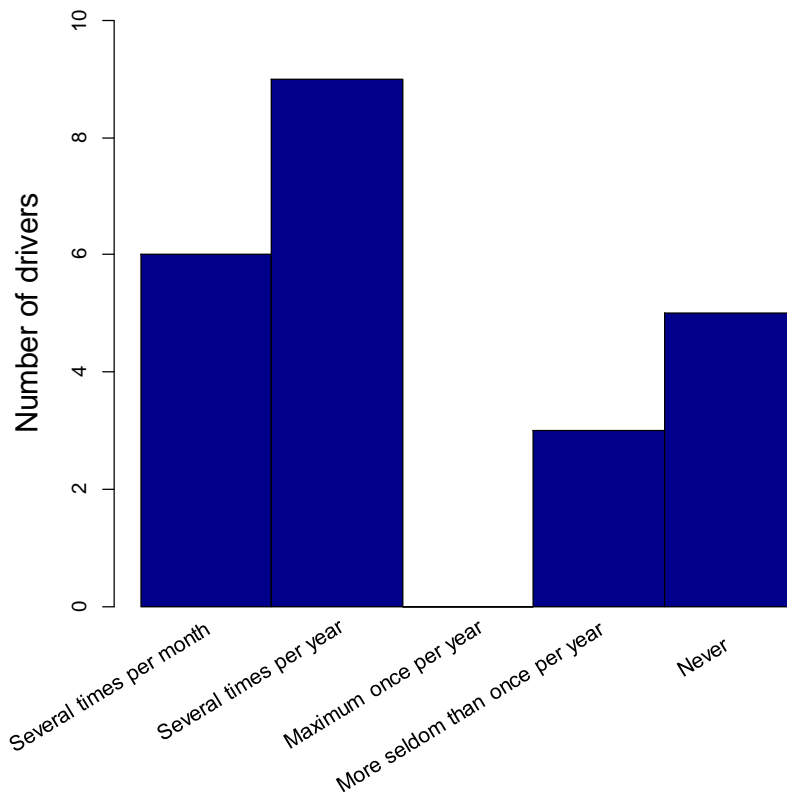


Figure 2. Frequency of drivers (n=25) having a sow rejected at the slaughterhouse.

As can be seen in Figure 2, 6 drivers (24%) had sows rejected several times a month, whereas 8 drivers (32%) never had their sows rejected or had them rejected less than once a year. However, the most normal was rejections several times a year (36%). There does not seem to be any connection between the incidence of rejection, and how long ago the drivers took the transport course ($R^2=0,02$).

The drivers were asked why the sows were rejected. Some claimed they could not remember the reason. As for the rest, lameness were a bit more likely than other reasons, but in general many different reasons were mentioned such as foot rot, stress, a chronic inflammation of the udder, legs, a stab wound and a prolapsed rectum.

Information about the transport

Most drivers (91%) said they received information about the transport of the sows, while only 2 (9%) drivers did not receive the information they needed. In case the drivers did not have the information, they usually just called the farmer in advance.

Individual transport

Depending on the fitness of the sow, some might need individual transport. The frequency of which drivers transport sows individually can be seen in Table 3.

Table 3. Frequency of how often the drivers transport sows individually.

	Daily	Several times a week	Once a week	Every other week	Max. once a month	More seldom	Never
Number	0	0	3	4	8	5	4
%	0%	0%	12.5%	16.7%	33.3%	20.8%	16.7%

This does not seem to be something that frequently happens, as more than 70% do not transport sows individually more than once a month. This might also reflect an increased workload of transporting sows individually. The drivers' experience of increased workload is illustrated in Table 4.

Table 4. The drivers' experience of increased workload, when the sows are transported individually.

	No increase	Yes, a little	Yes, some	Yes, a lot
Number	1	7	15	1
Percentage	4%	29%	62.5%	4%

As the table shows, more than 60% of the drivers experienced some increase in their workload when the sows were transported individually. 4% of the drivers did not find any change in the workload, likewise only 4% found a large increase in their workload.

The reasons why drivers believe a sow would benefit from being transported individually differ (Table 5).

Table 5. Reasons why drivers believe the sows should be transported individually.

Reasons	Number of drivers	
	Number	Percentage
If the sow needs to be transported individually, then it is not fit for transport	5	23%
Heavy or big	5	23%
Lameness	4	18%
Leg	3	14%
Shoulder wounds	2	9%
Old	2	9%
Weak sows	2	9%
Others*	7	32%

* Others include, but are not limited to, hernia and minor injuries. Other kind of separation, such as dividing the sows to allow weak sows to be kept for themselves.

As the table shows, it is somewhat common for the drivers to believe that if a sow needs to be transported individually it is not fit for transport at all. Similarly, heavy/big sows, lame sows or leg weakness are often mentioned as reasons for individual transport.

Transport

Depending on the transport distance, there might be a change of driver before the lorry arrives at the slaughterhouse. Only 8 drivers (32%) answered that this was the case on this particular day. In contrast, it is relatively normal for the drivers to pick up the sows themselves as 17 drivers (68%) had done that at the day of the interview.

The number of sows each driver had transported to Skærbæk slaughterhouse at the day of the interview shows some variation (Figure 3).

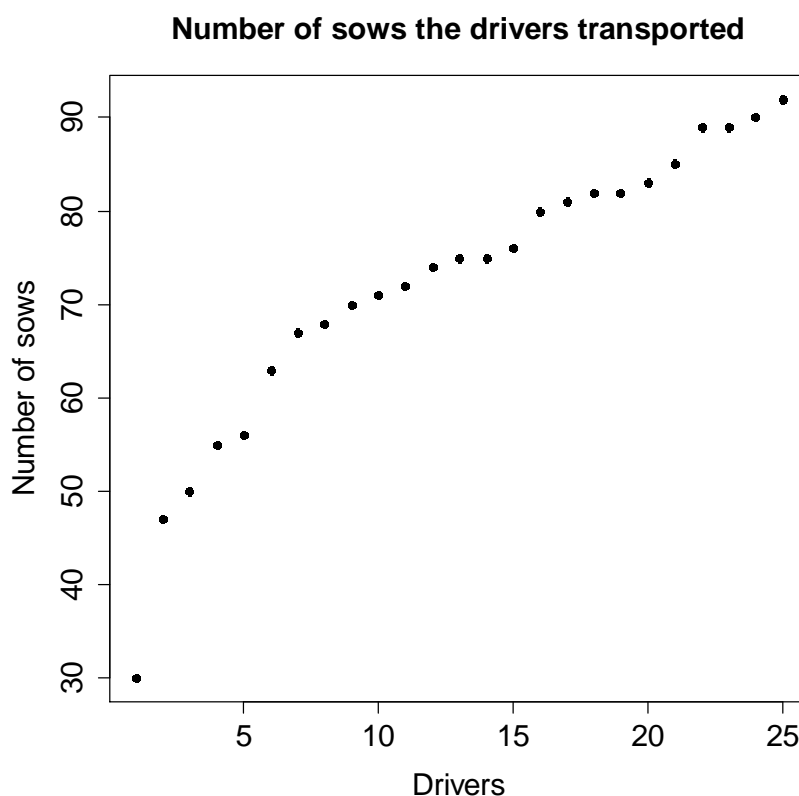


Figure 3. Number of sows on the lorry, at the day of the interview (n=25)

One driver only transported around 30 sows to Skærbæk at the day of the interview. However, most of the drivers transported more than 60 sows, and the driver that transported most sows transported 92 sows. Depending on the design of the lorry, a full lorry corresponds to approx. 50 to 90 sows. This means that on the day of the interview, most lorries were more or less full.

In general, it differs quite a bit how many trips the drivers take per week as illustrated in Table 6 below.

Table 6. Trips per week.

Number of trips	2 or less	From 2 to 4	More than 4
Number	8	9	8
%	32%	36%	32%

It should be noted that no driver takes more than 7.5 trips per week. About one third answered "More than 4" indicating that driving sows is their main job.

Rejection of sows

If a farmer sends a sow to slaughter, and the driver finds that it is not fit for transport, the driver can reject it. The frequency of which the drivers reject cull sows can be seen in Figure 4.

Rejecton of cull sows that the herd has selected for slaughter

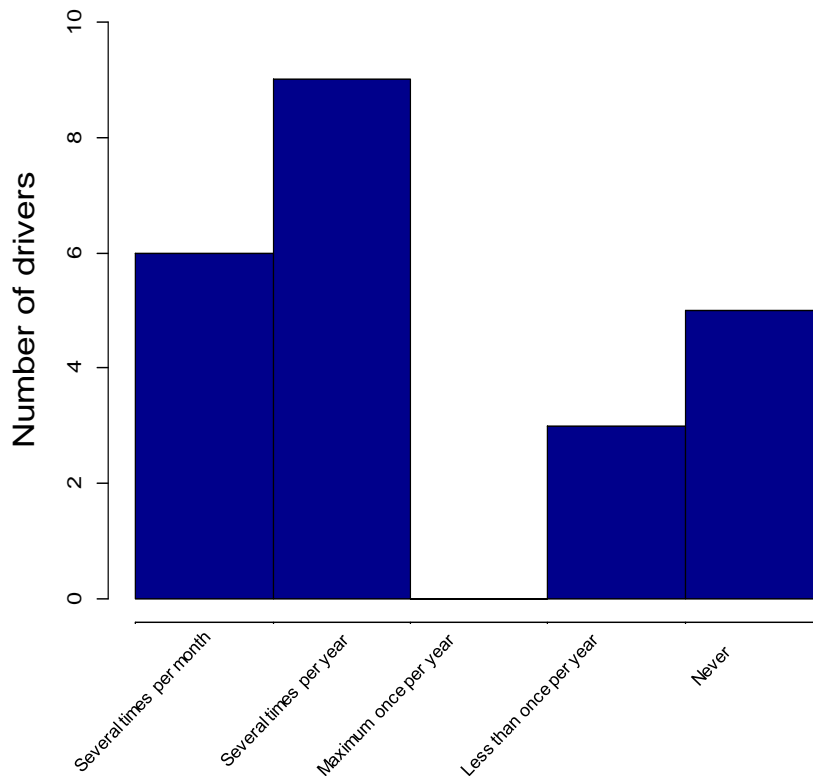


Figure 4. How often have you rejected a sow before transport.

Referring to Figure 4, the drivers either reject sows on a relatively regular basis (several times a month or several times a year) or very rarely (less than once a year or never). There does not seem to be any relation between this, and how long ago the drivers took the transport course (data not shown).

The drivers listed their typical reasons for rejecting sows. 22 drivers answered this question, and their reasons are reflected in Table 7 below.

Table 7. Reasons why the drivers have rejected sows.

Reason	Number of drivers
Legs	12
Shoulder wounds	9
Lameness	6
Hernia	2
Big udder	2
Wounds	2
Others*	3

* Others include damaged hip cross, deferred rectum and that some sows can be difficult to access during hot periods.

The table clearly shows that problems related to the legs including lameness are the most common reason for drivers to reject sows. Shoulder wounds also seem like relatively normal reasons, whereas the other reasons seem rare.

Pick up facilities

12 drivers answered that they preferred transfer rooms when picking up the sows. Likewise, 12 drivers answered that they preferred transfer vehicles. Some drivers answered both. Moreover, there were no drivers that had other preferences.

Breaks

For drivers, certain rules decide for how long a time you are allowed to drive without a break. 15 drivers (60%) believe that this does affect the sows' welfare, whereas 10 drivers (40%) do not believe that the break influences the sows' welfare. The drivers were also asked if they had ever violated the rules about breaks, due to consideration for the sows' welfare. This was the case for 11 drivers (44%). When asked to elaborate, the most common answer was that they believe breaks either 'are' or 'especially are' a problem for the sows in hot weather. Also, for some transports there were two drivers per lorry. Some rest prior to loading or otherwise plan the transport so they can avoid the lorry standing still.

Other distressing factors

Aside from breaks, there are other factors that might influence or stress the sows during transport. The drivers' view on this is reflected in Figure 5.

Distressing factors for the sows during transport

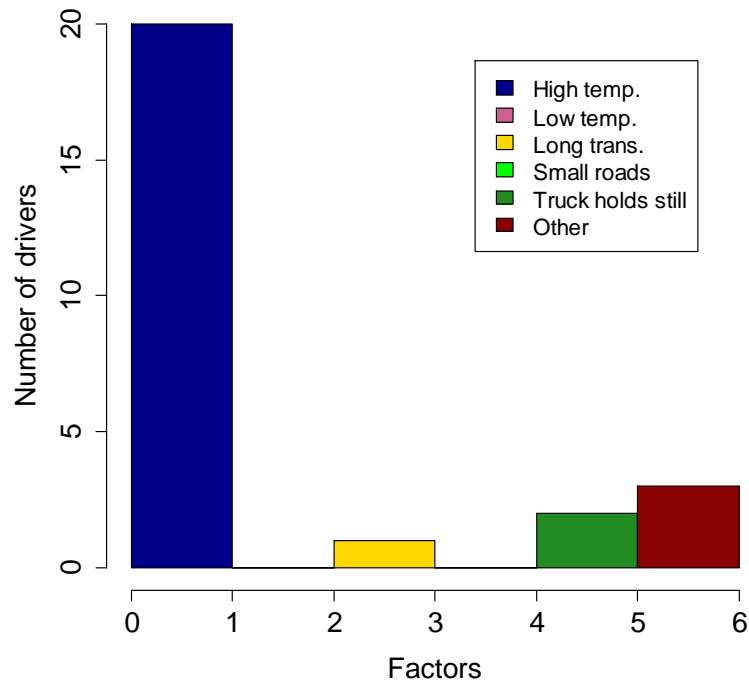


Figure 5. Distressing factors for sow welfare according to the drivers (n= 25 drivers).

High temperature is clearly a concern for almost all the drivers (80%), which is in accordance with their reflection of when breaks during transport are a problem. There are other distressing factors for the sows during transport. The lorry holding still is one of them. In this question, only two drivers (8%) believe this to be the case. That differs somehow from the previous answers regarding 'if they believed that breaks had influence on the sow welfare', and 60% answered yes (see section 'breaks').

Ventilation

It is possible for the drivers to adjust the air intake for the sows during transport. Most of the drivers, 20 (80%), do this on a daily basis. One driver (4%) adjusts the air intake several times a week. The rest of the drivers, 4 (16%), never adjust the air intake.

Mixing

Almost all the drivers (91%) mix sows from different herds in the same lorry daily. One driver (4.5%) does this several times a week, and there is only one driver (4.5%) that never does this. Furthermore, the sows can be moved across sections during transport. The frequency of the drivers moving sows across sections is reflected in Figure 6.

Frequency for moving sows across sections during a transport

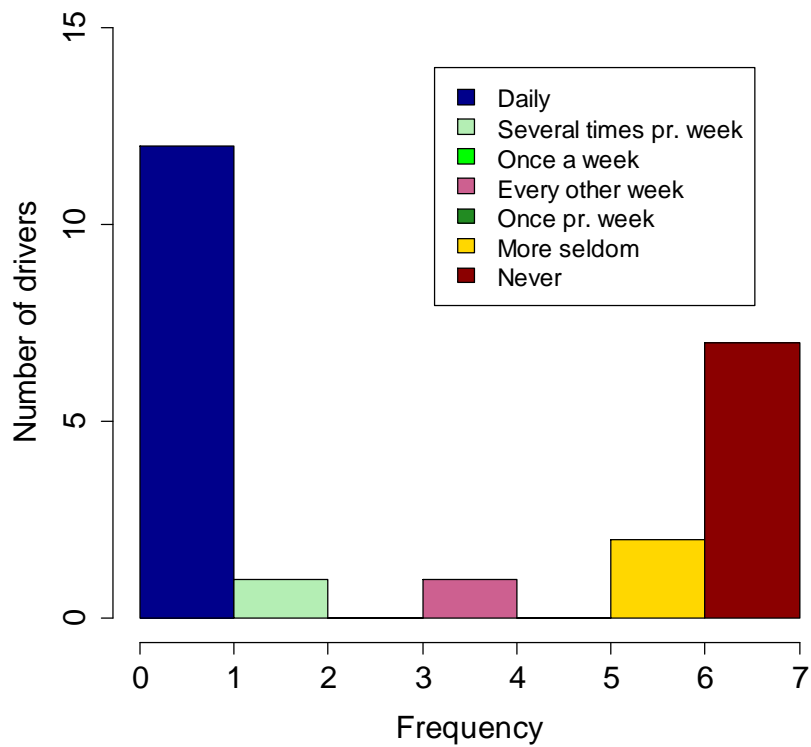


Figure 6. Frequency of moving sows across sections (n=25 drivers)

The figure shows that it is normal for drivers to move sows across sections on a daily basis or never doing it, indicating that either it is a part of normal practice or not. Furthermore, it is also more common for drivers never to move sows across sections, than it is for drivers to mix sows from different herds.

Unloading

At the end of the transport, the drivers wait for up to one hour to unload the sows. The waiting time has been categorized (Figure 7).

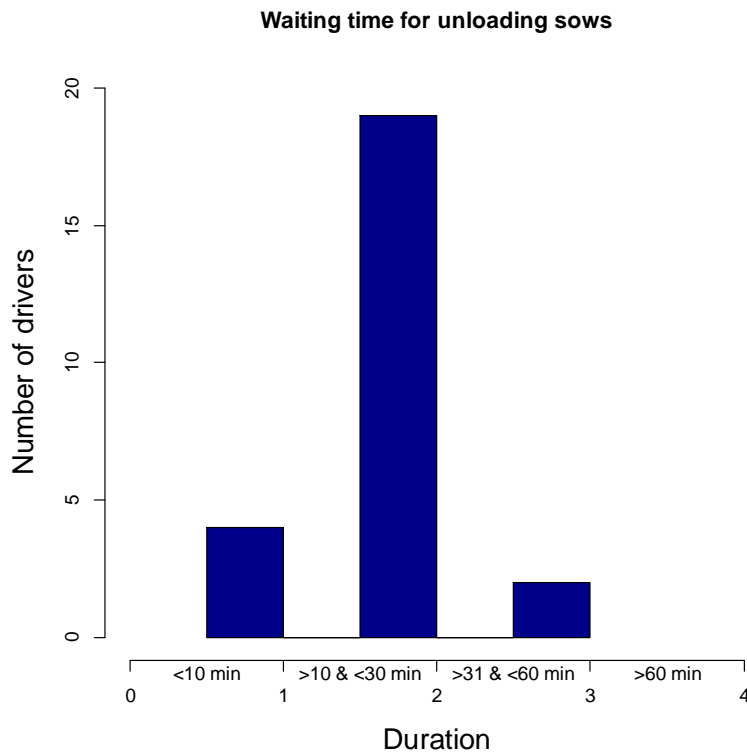


Figure 7. Typical waiting time before unloading at the slaughterhouse.

As can be seen, it is most common to wait somewhere between 10 and 30 minutes. This is the case for 19 drivers (76%). 4 drivers (16%) wait less than this, and 2 drivers (8%) wait 30 minutes to an hour. None waited for more than one hour.

Optimizing of sow transport

The drivers were asked if they had any inputs to how to optimize the sow transport. 13 had no input. For the rest, expansive ramps were the most common mentioned suggestion (n=6). Other suggestions were:

- sprinkling
- possibility to control the hatch from the cap
- better air flow
- water also on short trips
- cover at the slaughterhouse for the unloading waiting time
- rooting materials/chains
- fewer sows on the lorry
- that the drains could be automatically closed with a lock
- easier to separate the boars
- better ways to store the room divider when not in use

Discussion

The drivers are a mixed group as they are divided into a very experienced and a less experienced group. They are all male and with a huge variation in age. For about one third, driving sows at least 4 times a week seems to be their main job.

For many of the drivers, rejection of sows before transport is quite frequent and is mainly due to considerations of welfare or risk of being fined. Lameness and other leg problems are most often the reasons for rejecting the sows.

Welfare seems to be a concern for the drivers, and especially warm weather is mentioned as a reason for distress of the sows during transport.

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Appendix

Spørgsmål til chauffører

Questions for the drivers

Spm. nr.						
1	Alder Age					
	Angiv alder State your age					
2	Køn Gender					
	Valg (1 kryds) Mark one	Mand Male	Kvinde Female			
3	Hvor lang tid har du arbejdet som chauffør på sotransporter For how long have you worked as a driver on sow transports?					
	Valg (1 kryds) Mark one	Under 1 år Less than 1 year	1-5 år 1-5 years	6-10 år 6-10 years	Over 10 år More than 10 years	
4	Hvor mange år er det siden du var på transportkursus? How long time ago did you take the transport course?					

	Valg (1 kryds) Mark one	For under 1 år siden- Less than one year ago	1-5 år 1-5 years	6-10 år 6-10 years	Over 10 år More than 10 years ago	
5	Har du i dag selv hentet søerne direkte i besætningen? Did you yourself pick up the sows in the herd today?					
	Valg (1 kryds) Mark one	Ja Yes	Nej No			
	Hvis 'nej' If 'no'	Telefonnummer The first driver's phone number				
6	Hvor mange søer har du med til Skærbæk i dag? How many sows did you transport to Skærbæk today?					
	Antal Number					
7	Hvor ofte transporterer du søer til Skærbæk? How often do you transport sows to Skærbæk?					
	Angiv antal ture/uge State the number of trips per week					

8	Hvor ofte må du afvise udsættersøer, som besætningen har valgt at sende til slagtning? How often do you have to reject cull sows that the herd has selected for slaughter?					
	Valg (1 kryds) Mark one	Flere gange om måneden Several times a month	Flere gange om året Several times a year	Højest en gang om året Maximum once a year	Sjældnere end én gang om året More seldom than once a year	Aldrig Never
9	Hvad er typisk grunden til, at du afviser en so? What is the typical reason for rejecting a sow?					
	Åbent spørgsmål Open-ended question					
10	Hvilke udsættersøer er du ofte i tvivl om er transportegnede? Which types of cull sows are you most frequently in doubt about regarding fitness for transport?					
	Åbent spørgsmål Open-ended question					

11	Hvilke faktorer spiller ind, når du overvejer at afvise en so? Which factors are important when you decide whether a sow is fit for transport?					
	Valg (Sæt evt. flere krydser) Mark one or more	Risikoen for at få en bøde The risk of being fined	Soens velfærd The sow's welfare	Manglende mulighed for at adskille soen fra de andre søer Lack of option to separate the sows from other sows (during transport)	Tid Time	Andet Other reasons
	Hvis "Andet", uddyb gerne If you answered 'other reasons', please elaborate					
12	Hvilken udleveringsfacilitet synes du er bedst? Which transfer facility do you prefer?					
	Valg (1 kryds) Mark one	Udleveringsrum Transfer room	Udleveringsvogn Transfer vehicle	Andet Other facilities		
	Hvorfor? Why?					

13	<p>Oplever du problemer når søerne skal læsses, og i så fald hvilke?</p> <p><i>Do you experience problems when the sows are loaded onto the lorry, and if so: which problems?</i></p>					
	<p>Åbent:</p> <p><i>Open-ended question</i></p>					
14	<p>Hvor tit har du prøvet at få afvist en so på slagteriet, som du selv har valgt at tage med?</p> <p><i>How often have you experienced to have a sow rejected at the slaughterhouse – a sow, which you have chosen to load onto the lorry?</i></p>					
	<p>Valg (1 kryds)</p> <p><i>Mark one</i></p>	<p>Flere gange om måneden</p> <p><i>Several times a month</i></p>	<p>Flere gange om året</p> <p><i>Several times a year</i></p>	<p>Højest en gang om året</p> <p><i>Maximum once a year</i></p>	<p>Sjældnere end én gang om året</p> <p><i>More seldom than once a year</i></p>	<p>Aldrig</p> <p><i>Never</i></p>

15	<p>Sidst du fik en so afvist, hvad var da galt med den? What was the problem, the last time you had a sow rejected, which you had transported?</p>					
	<p>Åbent: Open-ended question</p>					
16	<p>Hvordan kan vejret påvirke søernes velfærd under transporten til slagteriet? How can the weather affect the welfare of the sows during transport to the slaughterhouse?</p>					
	<p>Åbent: Open-ended question</p>					
17	<p>Hvor ofte har du søer med, der skal transporteres enkeltvis/adskilt fra de andre søer? How often do you transport sows that are to be transported individually?</p>					

	Valg (1 kryds) Mark one	Dagligt Daily	Flere gange om ugen Several times a week	Ca. 1 gang om ugen Approx. once a week.	Hver anden uge Every second week	Højst en gang om måneden Maximum once a month
	Valg (fortsat) (continued)	Sjældnere More seldom	Aldrig Never			
18	Hvilke udsættersøer mener du ville have gavn af at blive transporteret enkeltvis/adskilt fra de andre søer? Which cull sows do you think would benefit from being transported individually?					
	Åbent: Open-ended question					
19	Giver det dig ekstra arbejde, når søerne skal transporteres enkeltvis/adskilt? Does your workload increase, when the sows are transported individually?					

	Valg (1 kryds) Mark one	Nej No	Ja, lidt Yes, a little	Ja, en del Yes, some	Ja, meget Yes, a lot	
	Uddyb gerne Feel free to elaborate					
20	Påvirker dine køre- hviletidsregler søernes velfærd? Does the rules about rest- ing periods and driving af- fect the welfare of the sows?					
	Valg (1 kryds) Mark one	Ja Yes	Nej No			
	Hvis ”Ja”, uddyb If you answered “Yes”, please elaborate					
21	Har du nogensinde brudt dine køre-hviletidsreglerne af hensyn til søerne? Have you ever violated the rules about resting periods out of consideration for the sows on the lorry?					
	Valg Mark one	Ja yes	Nej no			

22	Hvilke af de nævnte faktorer vil du mene er mest belastende for søerne under transporten? <i>Which of the listed factors do you believe to be most distressing for the sows during transport?</i>					
	Valg (Sæt evt. flere kryds) <i>Mark one or more</i>	Høj temperatur i bilen <i>High temperature inside the lorry</i>	Lav temperatur i bilen <i>Low temperature inside the lorry</i>	Lang transporttid <i>Long transport duration</i>	Kørsel ad små veje med skiftende hastighed, mange sving og vejbump <i>Driving along small roads with alternating speed, and many curves and bumps</i>	Bilen holder stille <i>If the lorry comes to a stop</i>
	Valg (fortsat) <i>(continued)</i>	Andet <i>Other reasons</i>				
	Hvis "Andet" uddyb <i>If you answered 'other reasons', please elaborate</i>					
23a	Justerer du ventilation og luftindtag undervejs til slagteriet? <i>Do you adjust the air intake for the sows during transports?</i>					

	Åbent (spørger har kategorierne klar, og kan krydse én mulighed af) Open-ended question	Dagligt Daily	Flere gange om ugen Several times a week	Ca. 1 gang om ugen Approx. once a week.	Hver anden uge Every second week	Højst en gang om måneden Maximum once a month
		Sjældnere More seldom	Aldrig Never			
23b	Opfølgende spørgsmål (ventilation og luftindtag): Er der forskel på sommer og vinter? Follow-up question: Do you do the same summer and winter					
	Åbent Open-ended question					
24	Hvor ofte sammenblender du søer fra flere besætninger i samme sektion på lastbilen? How often do you mix sows from different herds in the same section of the lorry?					

	Valg (1 kryds) Mark one	Dagligt Daily	Flere gange om ugen Several times a week	Ca. 1 gang om ugen Appr. once a week.	Hver anden uge Every second week	Højst en gang om måneden Maximum once a month
		Sjældnere More seldom	Aldrig Never			
25	Hvor ofte flytter du rundt på søerne mellem lastbilens sektioner undervejs til slagteriet? How often do you move sows across sections during a transport?					
	Valg (1 kryds) Mark one	Dagligt Daily	Flere gange om ugen Several times a week	Ca. 1 gang om ugen Approx. once a week.	Hver anden uge Every second week	Højst en gang om måneden Maximum once a month
		Sjældnere More seldom	Aldrig Never			

26	Hvor længe venter du typisk på at få læsset søerne af efter ankomst til slagteriet? <i>For how long do you typically wait to unload sows after arriving at the slaughterhouse?</i>					
	Valg (1 kryds) <i>Mark one</i>	Mindre end 10 minutter <i>Less than 10 minutes</i>	10-30 minutter <i>10-30 minutes</i>	31-60 minutter <i>31-60 minutes</i>	Over en time <i>More than one hour</i>	
27	Opfatter du kontrollen af søerne ved ankomst som ensartet fra gang til gang? <i>In your opinion, is the veterinary control at arrival consistent from day to day?</i>					
	Valg (1 kryds) <i>Mark one</i>	Ja <i>Yes</i>	Nej <i>No</i>			
	Hvis ”Nej”, uddyb <i>If you answered “No”, please elaborate</i>					

28	Får du de oplysninger som du har brug for i forhold til den enkelte transport? Do you receive the information needed in relation to the individual transports?					
	Valg (1 kryds) Mark one	ja yes	nej no			
	Hvis "Nej": Hvilke informationer kunne du tænke dig at få? If 'no', which information would you like to receive?					
29	Er der noget du ønsker mere viden om i forhold til, hvordan transporten påvirker søerne? Is there something you wish to learn more about in relation to how the transport affects the sows?					
	Åbent Open-ended question					

30	<p>Har du forslag til, hvordan man kan optimere lastbilens indretning til gavn for søerne?</p> <p>Do you have any suggestion as to how the lorries can be optimised for the benefit of the sows?</p>					
	<p>Åbent</p> <p>Open-ended question</p>					