Meeting on FEI Footing Standard in Jumping

28 & 29 July 2015

Lausanne FEI Headquarters

Meeting Summary

1. Introduction

The meeting was opened by FEI President Ingmar de Vos. He stressed the importance of introducing a Footing Standard but also wanted to ensure that it would not negatively impact the organisation of events, the lifeblood of our sport.

The Chairman of the FEI Veterinary Committee, Dr John McEwen, provided a short summary of the veterinarian aspects of the envisaged footing standard and the link to the FEI and World Horse Welfare supported Footings Research Project which has been conducted from 2008 to 2013.

FEI Director Jumping, Mr John Roche, gave an overview on the current status of the sport of Jumping and highlighted the tremendous growth of the sport over the past ten years as well as issues that can be associated with this, including health, environmental sustainability and maintenance.

2. Draft of FEI Footing Standard

Meeting delegates were presented with research findings on the performance of arena surfaces. The characteristics of the surfaces are described using five parameters which represent a consensus from riders and footing experts regarding the desired characteristics of an arena surface; those characteristics being

- Impact firmness
- Cushioning
- Responsiveness
- Grip and
- Uniformity.

Laboratory Testing for a Certified product

- A product that have the potential to meet FEI standards for competetion arenas
- This is a design review that comprises evaluation of material and functional properties and construction principles

The challenge is that many of the most important international events are held in temporary venues, while other surfaces that are used for training for many years without replacement, may also be used for major events.

In-Situ or field tests of five parameters

- Independent objective, quantitative assessment of material, construction, installation and maintenance procedures of certified product to ensure it meet standards

The discussion revolved around three stages of an approval process considered vital to ensure the performance of surfaces for both training and events.

Stage 1 – Laboratory Testing

It is critical that the correct material and design be used. Assessment of this can be carried out prior to the installation of a surface. This pre-installation assessment appeared to be well supported by the footing manufacturers present at the meeting. This work can be done with a combination of laboratory material testing as well as using the "track in a box" protocol which has been used by Professor Stover at UC Davis, as well as by Dr Sarah Jane Hobbs from the University of Central Lancashire and Dr Mick Peterson at the University of Maine. Additional benchmarking of this testing is required for ebb and flood systems and may require some additional infrastructure footings designs which use wax. This initial testing also provides an opportunity to carry out an essential evaluation of the composition of the materials to ensure that the surfaces are safe for both users and the surrounding environment.

Maintenance footing expert

- Working with an approved footing expert with the practical and theoretical skills to develop and apply maintenance protocols enabling a certified product to continuously comply with standards and in addition adjust maintenance in relation to field tests

Stage 2 – In-situ testing of five functional properties

The second stage of the assessment would be based on the efforts to test footings throughout Europe by Dr Lars Roepstorff of the Swedish University of Agricultural Sciences and his collaborators. This has resulted in criteria being established, based on rider perception, for the measurement of impact firmness, cushioning, responsiveness, grip and uniformity. Testing would be carried out on a properly installed surface which consists of materials and design methodology which has been previously certified in the laboratory testing phase of the surface certification (see above).

Delegates were informed that there was one functional property, 'grip', which did not show a strong correlation to the perception of athletes. This was highlighted by Dr Hobbs as the basis of a recent study and resulting paper which will support

continued development of the instrumentation required for the in-situ testing of arenas.

Stage 3 – Maintenance protocol

The final aspect of the development of high quality footings for major events is appropriate maintenance both leading up to and during the event itself. By clearly defining the maintenance time and protocols during laboratory and in-situ testing, the potential exists to improve communication with local organisers thereby helping to deliver the required standards through maintenance of the surface. Delegates agreed that producing tracking manuals and perhaps an on-line version (maintenance tracking/log book system) would greatly benefit the sport by contributing to improved standards of footing.

In summary, a consensus emerged at the forum that procedures around these three stages (laboratory footing certification, in-situ testing of the installed surface and tracking of maintenance) should evolve into standards and education that can support manufacturers, organisers and protect horses and athletes. Written protocols for all of these steps in the process need to be developed and would be maintained by the FEI as part of their efforts to support the growth of equestrian sport while protecting the safety of horse and athlete.

During the meeting a number of topics were discussed in more detail.

Torsion

One of the first was a discussion regarding sliding versus rotational grip. Several delegates suggested that differences in grip may occur on a surface depending on the movement being performed, which could impact on the magnitude of stress experienced by the horse. Dr Hobbs indicated that a new device (the Glen Withy Torque Tester – GWTT) has recently been developed and compared to OBST grip measurements to investigate whether functional differences in grip are apparent between machines. The OBST uses a dynamic linear sliding movement to measure grip whilst the GWTT uses a more static vertical load with a rotational movement.

The results so far indicate that the GWTT may be able to differentiate grip between surfaces better, but further work is needed to fully explore these measurements.

Colour Indicator

Rider evaluations of 4* and 5* events provided a method of setting thresholds for the functional properties measured by the OBST. These were then used to set the red/yellow/green thresholds for each functional property. The details regarding the red/yellow/green parameter system will be published within the next months.

Consistency over time

Footing experts were keen to emphasise the importance of preparation and maintenance to ensure the consistency of functional properties over time. The group agreed that not only was it important to have a maintenance programme, but that staff must have the expertise and appropriate equipment to undertake the required tasks identified in the programme at specified time intervals. *In-situ* testing would then be used to confirm that performance standards are maintained by comparing functional properties over time (at appropriate time intervals and with adequate maintenance).

Functional Properties

Dr Roepstorff talked the group through the development of the 5 functional properties of equestrian surfaces. In 2013, a group of scientists came to a consensus on surface properties that can be identified as key in relation to impacting on welfare and performance. Terminology was then developed together with a description of each property, which was documented in the FEI Equine Surfaces White Paper and used in the questionnaires that the riders completed. Each functional property was then quantified using measurements taken from the OBST. Dr Roepstorff talked through the quantification of each measurement and their relationship to rider perceptions. It is clear that relationships exist between rider opinion and objective measurements. This work provides us with a good level of confidence in using the quantitative measurements to develop thresholds for acceptance of footing – a footing standard.

3. Implementation of FEI Footing Standard

The implementation of the FEI Footing Standard is a complex task that has to consider many interests from the footing industry, the arena owners as well as the FEI.

During the presentation and discussions the following recommendations were made:

1) Detailed information on process, application, protocols etc. for FEI testing of arena surfaces should be made available on www.fei.org

2) Any application for obtaining an FEI footing approval should include details on footing installation (construction design) and maintenance teams with their respective qualifications, and maintenance equipment.

3) It is important to engage the footing industry in feedback on the process.

4) It has been suggested to create a working group with industry representation to design and implement the process of footing approval.

5) The Event Classification System (ECS) that is currently been applied in certain Jumping Events uses athlete feedback for the evaluation of the quality of footing. It is envisaged that the FEI Footing Standard will be replacing the rider feedback within the ECS.

6) It is important to maintain the standard after testing/assessment of an arena is completed and the 'experts' have left.

7) There should be a provisional period of approval after assessment, until the first cycle of the agreed maintenance protocol has been completed successfully.

8) It has been suggested to establish a recognition system for companies, experts and maintenance personnel on the FEI website. This could be based on a points, credit or star rating system based on successful certification of an installation for events/competitions.

9) The process for approving grass arenas needs to be further considered and a comparable methodology put forward to stakeholders for feedback.

10) The person/team responsible for maintenance of competition arenas need to be identified and logged (maybe even in the FEI schedule).

11) The FEI should support a system of experts to oversee installation and maintenance, thereby sharing experience, best practice and knowledge regarding best equipment with local footing providers.

12) There is an urgent need for the FEI to take the initiative to promote and initiate the upskilling of maintenance staff, e.g. by internships with suppliers. FEI needs to value this as a professional skill.

13) Consideration should be given to separating event from arena certification.

14) The responsibility of the National Federations would be limited to the promotion of the standard and the encouragement to seek it.

15) It was strongly recommended that the FEI look closely in to human health issues (riders, entourage, maintenance staff, spectators etc.). It has been suggested to link this to an FEI Sustainability Programme.

16) It was agreed to develop a code of conduct for footing experts, identifying their role, describing professional behaviour and responsibilities.

17) As this meeting was intended to consider arena surfaces for Jumping only, it has been suggested to take a similar approach to develop standards for other FEI Disciplines.

18) If, in the future, testing is carried out by non-FEI certifiers, it is important to establish criteria and an accreditation process for official certifiers.

19) At future FEI events it is important to ensure that:
- Feedback on footing quality needs to be communicated to the person responsible on the ground.
- Flawless maintenance is guaranteed, to ensure safety and welfare as pressure increases on top horses and they are jumping at more shows.
- Time is available for adequate maintenance between rounds. The organiser must respect the maintenance protocol of the footing supplier/expert.

20) FEI Footing Experts: There is a need to identify the exact role of an FEI Footing Expert and specify the following (but not limited to): requirements, experience, responsibilities, his/her role in a tender, liability, reporting, conflict of interest, advertisement etc.
It was suggested that a working group should be established with industry representatives in order to define the above.

21) More data to be collected in the future to better manage risk of injury and to consider the balance of performance vs welfare and safety.

22) The FEI will investigate the detailed costs for arena surface testing and approval.

4. Future Communication

The FEI invited a cross section of leading members of the industry with significant experience to the Footing Meeting in 2015. Since then the FEI has been contacted by others from the industry requesting to be included in the ongoing process and to receive official communications.

This summary is being sent to all meeting participants as well as to other interested parties.

A final list of all representatives of the footing industry will serve in future as the official mailing list. All such contacts will receive copy of the complete mailing list.

During the meeting it was agreed that all relevant information should be made publically available.

5. Next Steps

Since 2008 the FEI has invested significantly into the development of scientific information on training and competition surfaces.

For 2016 a budget will be made available in order to cover the costs for implementing the standard for arena surfaces in Jumping.

There are seven steps planned to apply the recommendations of the 2015 Footing Meeting.

Step 1

Develop and validate 'track in a box' test procedures (to include moisture, temperature, compaction, box/boundary size, sub-surface effects etc.).

Step 2

Develop documentation for procedures, data processing and reporting for:

a. Pre-approval of materials
b. Design review
c. Track in a box testing
d. In-situ testing
e. Maintenance plan/log

Step 3

Develop documentation to define current best practice for maintenance i.e. equipment used and best methods of using it.

Step 4

Define footing expert qualification and footing maintenance qualification in relation to the FEI framework for the footing standard.

Step 5

Define requirements for accreditation of competent personnel to undertake FEI standards testing/review/acceptance.

Step 6

Define requirements for accreditation of laboratories to undertake materials testing.

Step 7

Define and create a working group to be led by the FEI with footing research and expert representation. The group will initially work on implementation of the above points. In the longer term this group (or such group to be recommended by this body) will be responsible for further development of the standard and accreditation/approval processes both for Jumping and other disciplines.

6. Attachments

1. Standard for Arena Surfaces

2. Footing Project History

3. List of Meeting Participants and their Email Addresses

4. The Presentation