Technical Sheet for Solution Implementation

Forward March Principle

Thematic Area: Health and Welfare.

Priority: What practices can be implemented to promote biosecurity measures and prevent emergent diseases?

Need: How to improve the implementation of biosecurity on farms; How to access the right tools; Health protocols to put in place; How to define and promote good heath practices

Solution EU Number: HE-10.

Content of the Solution: Implementation of a structured workflow ("Forward March") that minimizes disease transmission by handling equines in order of increasing health risk.

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Reasons for Implementing this Solution

Reduce the risk of transmissible disease (contagious or vector-borne) transmission within a farm. Equines differ significantly in their susceptibility to disease and potential to spread infection. A risk-based workflow helps prevent cross-contamination, especially in shared facilities or during outbreaks, and helps protect the most fragile animals.

Description of Solution Strategies

The Forward March principle is a biosecurity measure that aims to minimize the risk of disease transmission between equines within a farm by implementing a structured movement strategy. This measure supports proactive biosecurity in day-to-day operations—both in healthy and infected herds.

This strategy applies to all staff, caretakers, and external persons (e.g., farriers, veterinarians, suppliers) who come into contact with equines. It is relevant for the following types of operations:

- Breeding farms.
- Training facilities.
- Boarding and competition stables.
- Riding schools and mixed-use facilities.

It is used preventively in healthy environments and as a containment measure in infected herds.

Risk Assessment & Animal Classification

To implement the forward march strategy, equines must be systematically classified based on their individual disease risk. Key risk factors include:

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Risk Assessment & Animal Classification
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CRITERION	DESCRIPTION
Age & physiological condition/status	Foals, old horses, and pregnant mares are considered particularly susceptible and the consequences of that disease are potentially more serious.
Immune status	Influenced by vaccination status, use intensity (e.g., sport vs. leisure), and preexisting conditions (age, etc).
Exposure to external animals	Regular participation in competitions significantly increases risk.
Health status & origin	New arrivals or recently returned horses are considered high-risk.

Core Principle of Movement
The fundamental concept is: *work from the lowest to the highest risk.*

This applies not only to the order of animal contact, but also to:
- Spatial movement within the facility (e.g., order of aisles or stalls).
- Temporal order when using shared facilities (e.g., wash stalls, grooming areas).

Procedures in a Healthy Herd (Preventive Measure)
- Daily routines must begin with the healthiest and most sensitive animals (e.g., foals, pregnant mares).
- These are followed by older, more robust animals or those with external exposure (e.g., competition horses).
- New or high-risk animals are handled last.
- If returning to previously treated groups is necessary, hygiene measures must be observed (e.g., hand disinfection, shoe cleaning, clothing change).

Procedures in an Infected Herd (During an Outbreak)

- Sick animals are to be treated strictly last.
- If re-entering healthy zones is unavoidable:
  - Use dedicated equipment.
  - Wear separate protective clothing.
- Perform thorough disinfection of all surfaces, hands, and footwear.
- It is recommended to assign dedicated staff to sick animal groups, if possible.

The effectiveness of the measure strongly depends on the awareness and training of all involved:

- Educate staff, boarders, and visitors.
- Post signs indicating movement direction (e.g., at stable entrances).
- Conduct regular training sessions and awareness campaigns.

Tips:

1) Successful implementation of the forward march also requires good public information.
2) On a breeding farm, for example, it is important to keep the accommodation for foals and young horses under development separate. This separation must also be understood over time when equipment/facilities need to be shared (e.g. shower area).

Implementation Steps

1. **Risk Classification and Animal Grouping**
   - Evaluate all equines on-site based on age, physiological and immune status, exposure risk, and origin.
   - Assign animals to specific risk groups (e.g., Group A: low risk, Group B: medium risk, Group C: high risk).
   - Maintain updated records and communicate risk classifications to all relevant personnel.

2. **Define, draw-up and Communicate Movement Flow and forward plan**
   - Establish a clear spatial and temporal flow for handling animals – from lowest to highest risk based on structure's constraints in conjunction with the vet and stable staff.
   - Post visual aids (e.g., arrows, signs) to indicate movement direction in barns, grooming areas, and shared facilities.
   - Share movement flow plans in staff meetings and during onboarding of new personnel.
   - Assign zone-specific equipment (e.g., forks, brooms, buckets) and clearly mark them using color codes or labels. This avoids cross-use between areas with different risk levels and reinforces staff compliance with movement protocols.

3. **Schedule Workflows Accordingly**
    - Create daily and weekly work schedules that prioritize care for low-risk animals early in the day.
    - Ensure enough time is allocated between groups to allow for hygiene measures and avoid overlap.
    - Assign tasks based on risk groups where possible (e.g., dedicated staff for sick or newly arrived horses).

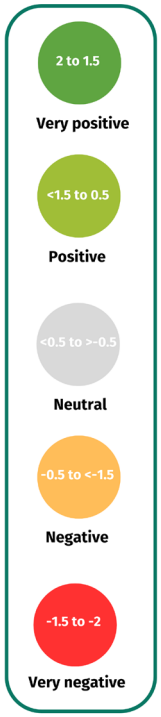
4. **Provide and Monitor Hygiene Measures**
    - Equip all critical points (e.g., between stables, before high-risk zones) with:
        - Hand disinfection stations.
        - Footbaths or shoe cleaning equipment.
        - Storage for clean and used protective clothing.
        - Implement a checklist for hygiene compliance (e.g., gloves changed, hands sanitized, boots cleaned).

5. **Training, Documentation, and Continuous Review**
    - Conduct regular training sessions on the forward march principle and hygiene protocols.
    - Document all procedures, staff responsibilities, and deviations.
    - Review and update risk classifications and workflows regularly or after special events (e.g., new arrivals, outbreak).

Forward March Principle

How Will this Solution Impact the Performance of your Farm ?

TOPIC	SCORE
Social	1.50
Economics	1.50
Welfare	0
Health	2.00
Environmental	0
Land access and management	-1.00
Global	0.75



Color coding explanation

Socioeconomics: This solution will support the social performance of the farm because it improves social outreach of the farm demonstrating the importance of health conditions on the farm and strategies implemented. In short term, it can increase working conditions but through a long-term perspective it can lead to a reduction in workload, and although it requires training and time to reflect on the system, support from advisers can ease this process and strengthen team collaboration.

This solution will support the economic performance of the farm because while it involves upfront costs —such as investment to isolate horses or groups of horses—it remains cheap in daily management, and the reduced risk of contamination leads to fewer treatments and lower healthcare expenses over time. This investments done increase also the farm capital. It can also attract clients for which this type of strategy is important.

Health & Welfare: This solution will positively impact the farm's health performance by helping to maintain low levels of pain, mortality, and drug use, through the protection of vulnerable horses from potential infectious disease transmission. By upholding high health standards, it indirectly supports equine welfare performance—maintaining a positive emotional state—by preventing the progression to advanced stages of illness.

Forward March Principle

How Will this Solution Impact the Performance of your Farm ?

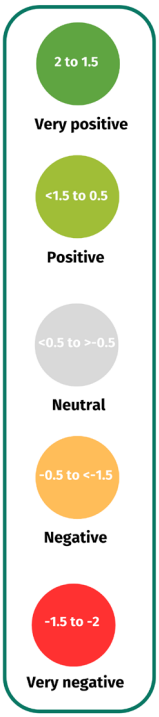
Environmental Sustainability: This solution will not have an effect on the environmental performance of the farm, because it does not change farm level activities and routines related to climate change mitigation and adoption, halting biodiversity loss nor water management practices.

This solution could weaken the land access and management performance of your farm as this solution needs a lot a space to be well implemented. Although it does encourage one to think about farm level grazing and rotation, to implement the solution properly, more space is needed.

Globally, this solution will support the performance of the farm.

How Will this Solution Impact the Resilience of your Farm?

TOPIC	SCORE
Social	0.50
Economics	0.83
Welfare	0.17
Health	1.67
Environmental	0.61
Land access and management	0
Global	0.68



Forward March Principle

How Will this Solution Impact the Resilience of your Farm?

Socioeconomics: This solution will support the social performance of the farm facing external challenges assessed because it improves the long-term quality of working life by reducing workload and stress, enhances health outcomes with fewer disease risks, and provides greater emotional security for workers, even though it may initially demand more effort and adaptation.

This solution will support the economic performance of the farm facing external challenges assessed because it leads to lower veterinary costs, reduced medication use, and fewer animal losses, while investments in infrastructure (e.g., quarantine areas) help preserve capital and align with market and regulatory demands—even though sufficient land and space are needed to fully implement the system.

Health & Welfare: When the farm faces external challenges, its health performance will be supported by this solution, as it reduces pain, mortality, and the need for medication through the prevention of infectious disease transmission. As a result, the farm becomes more resilient to external pressures.

However, this solution does not directly enhance the welfare performance of the farm. Increased disease resilience does not necessarily translate into an improved emotional state for the horses or better living conditions. In fact, slight negative impacts on welfare may arise if horses need to be kept in separate groups to prevent disease spread, potentially limiting their social interactions.

Environmental Sustainability: This solution will support environmental performance of the farm facing external challenges assessed, because it requires more grassland and space which in turn supports climate change mitigation and halting biodiversity loss. In a case of inflation, the solution can lower vetenary costs, hence there will be more available budget for actions to improve environmental sustainability. This solution can help to limit the risk of water contamination facing challenges by reducing the use of drugs.

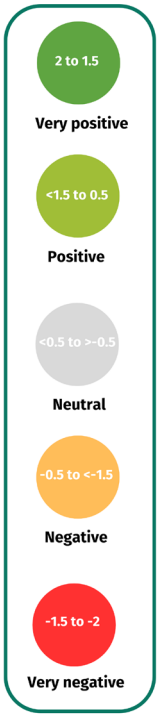
This solution will not impact land access or management performance of the farm facing external challenges assessed.

Globally this solution will support the resilience of the farm so it will support the global performance of the farm facing the external challenges assessed.

Forward March Principle

How Can this Solution Help your Farm Cope with Specific External Challenges to Become More Resilient?

CHALLENGES	SCORE
Inflation	0.50
Pandemic	0.58
High welfare standards	1.25
High infectious diseases	1.42
Extreme weather event	0.33
Loss or limited access to grassland	0.08



Inflation & Social Crises: This solution will support the global performance of the farm facing inflation because it stabilizes long-term operating costs through lower veterinary expenses and reduced use of curative medication, enhances animal health and welfare, and strengthens environmental sustainability by improving water management and freeing up budget for climate change mitigation. While it may require upfront investment in infrastructure (e.g., quarantine areas), if these are already in place, it increases farm capital and resilience, despite the ongoing need for more land and short-term workload.

This solution will support the global performance of the farm facing pandemics because it limits health risks and contamination, leading to fewer sick animals, lower veterinary costs, and reduced medication use, while also improving working conditions and emotional well-being in the long term. Additionally, it protects existing capital (horses) through better disease management, supports continuous farm operation with fewer disruptions, and promotes trust through transparent and proactive biosecurity practices.

Forward March Principle

How Can this Solution Help your Farm Cope with Specific External Challenges to Become More Resilient?

Welfare & Diseases: This solution will support the overall performance of the farm across all three areas when facing infectious disease challenges. It contributes to profitability by lowering veterinary costs, which is especially beneficial during periods of inflation. It also improves animal health and welfare by reducing pain, mortality, disease incidence, and the need for curative medication, while decreasing the risk of disease transmission. In terms of environmental impact, it supports better water management by reducing pollution from veterinary medicines.

This solution strengthens the farm's global performance when adapting to compulsory high welfare standards. By ensuring a solid foundation of health protection, it helps the farm maintain strong performance by improving public perception as a well-managed and animal-friendly operation, reducing daily workload once the system is established, and continuing to protect both animal health and welfare.

Climate Change & Access to Land: This solution will not impact the global performance of the farm facing abnormally high temperatures and/or drought.

This solution could slightly weaken the global performance of the farm facing loss or limited access to agricultural land because to well implement it a lot of space is needed (to be able to separate correctly the equines).

Forward March Principle

Cost-Benefit Analysis

Costs

Socioeconomics:

- **Initial training and communication efforts:** Time and possibly external resources needed to educate staff and stakeholders.
- **Animal risk classification system:** Time and effort required to assess and regularly update individual animal risk profiles.
- **Hygiene infrastructure and materials:** Investment in disinfectant stations, protective gear, and signage.
- **Increased daily planning needs:** Greater effort to coordinate staff schedules and allow for group separation during routines.
- Initial coordination (e.g., agreement on definitions, protocols) may require time and effort.

Health & Welfare:

- Increased handling and hygiene procedures may require animals to adjust to longer or more segmented care routines.
- Temporary separation of certain horses (e.g., new arrivals) may affect social bonds or herd dynamics.
- Potential for initial resistance or stress due to changes in stable workflow or handling order.

Benefits

- **Fewer disease outbreaks:** Reduced treatment costs, fewer animal losses, and greater operational stability.
- **Higher operational efficiency:** Structured workflows reduce time loss due to backtracking or improvisation during outbreaks.
- **Enhanced reputation and trust:** Visible biosecurity measures increase confidence among clients, boarders, and veterinarians.
- **Prevention of major economic losses:** Forward March reduces the risk of costly outbreaks, quarantine, or exclusion from events.

- **Improved animal welfare:**
  - Sensitive groups (e.g., foals, pregnant mares) receive care with minimized infection risk.
  - Helps prevent cross-infection between groups, especially foals, seniors,andimmunocompromised animals.
  - Promotes early detection of health issues through more focused care for high-risk individuals.
  - Supports consistent routines, which positively influence equine behavior and well-being.

Forward March Principle

Cost-Benefit Analysis

Costs

Environmental Sustainability :

- Use of additional disposable materials (e.g., gloves, protective clothing) may increase environmental footprint if not managed sustainably.
- Need for structured cleaning/ disinfection protocols may temporarily increase water and chemical usage.
- Infrastructure adaptations (e.g., footbaths, signage) require resource inputs and careful planning.

Cooperation between farms:

- Requires mutual commitment to risk transparency and adherence to common standards.
- May reveal differences in hygiene levels or management quality, which can lead to tensions.

Benefits

- Prevents spread of pathogens into the environment (e.g., manure areas, shared surfaces).
- Reduces the need for widespread disinfection or medication during outbreaks, lowering chemical use.

- Creates a shared standard that facilitates safer exchange of animals (e.g., for breeding, sales, training).
- Encourages information sharing about risk levels, hygiene practices, and health status of horses.
- Strengthens regional biosecurity networks and builds trust between farm operators.
- Helps align practices for joint initiatives (e.g., events, transport, pasture sharing).
- Possibility of dividing the different animal groups between farms.

Additional Resources

Websites

- English:
  - https://equipedia.ifce.fr/en/equipedia-the-universe-of-the-horse-ifce/health-and-animal-well-being/care-prevention-and-medication/prevention/biosecurity-measures-general-guidelines
  - https://www.veterinary-practice.com/article/biosecurity-in-the-equine-setting
  - https://equinediseasecc.org/
  - https://animalbiosecurity.colostate.edu/home/

- French:
  - https://equipedia.ifce.fr/sante-et-bien-etre-animal/soin-prevention-et-medication/prevention/biosecurite-la-prevention-un-reflexe-contre-les-maladies
  - https://www.equiways.fr

Articles

- https://practicalhorsemanmag.com/health/biosecurity-strategies-to-keep-your-horse-health

Workshops/Online clases/Webinars

- Let's Talk Equine Webinar – Protecting herd health through biosecurity: https://teagasc.ie/publications/lets-talk-equine-webinar-protecting-herd-health-through-biosecurity-php
- https://campus.fei.org/login/index.php

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Annex

Ideas to Ideas to Animate a Workshop about the Solution

- **Ask a veterinary service provider or biosecurity consultancy** (specialized in disease prevention and animal health) to sponsor the workshop.

- **Find a model horse farm or breeding facility** with basic separation practices already in place (ideally with new arrivals, foals, and sport horses).

- **Prepare live demonstrations:** Set up scenarios that allow participants to practice workflows, hygiene steps, and risk classification tasks.

Proposed structure for the workshop on Forward March Principle in horse stables

1. Introduction to Forward March Principle?
- What is forward march?
- Key features and components of Forward March (e.g., Structured daily routines, risk group classification, hygiene checkpoints.).
- Types of workflow structures (e. g. Fully physical separation (zoning), procedural workflow only, hybrid models with time-based grouping).

2. Benefits of Forward March in Horse Stables
- Improved Animal Welfare: Less stress for sensitive groups, reduced disease transmission.
- Better Staff Safety and Clarity: Clear work order reduces confusion and contamination risk.
- Health Risk Management: Systematic handling of new arrivals and competition horses.
- Operational Resilience: Lowers risk of full-stable quarantine or mass infection events.

3. Practical Applications on Horse Farms
- Adjusting stable routines to follow health-based order (from foals to high-risk animals).
- Shared spaces (e.g. grooming, wash bays) scheduled to follow the Forward March principle.
- Integration into staff routines: task lists, hygiene steps, time allocation.

4. How to Choose the most suitable workflow mode?
- Assess the **farm structure** (e.g. number of horse groups, facility layout).
- Determine **risk levels and population turnover** (e.g. frequent transport, breeding).
- Define whether **staff separation** is feasible or time-based sequencing is more realistic.
- Consider budget, training needs, and long-term implementation capacity.

5. Hands-On Demonstration
- Live demonstration of Forward March in a real barn layout.
- Participants simulate handling order using color-coded horse groups.
- Practice of hygiene procedures: handwashing, footbaths, clothing changes.
- Roleplay of “daily routine” with feedback on movement flow and risks.

6. Maintenance and Troubleshooting
- Checklist systems to track correct implementation (e.g. whiteboard in tack room).
- Staff meeting structures to reassess risk classifications.
- Common problems: non-compliance, facility limitations, time pressure – and solutions.

7. Case Studies and Real-World Examples
- Presentation of 2–3 farms that have implemented Forward March:
- → Breeding facility, competition stable, small private yard.
- Discussion of adaptations based on farm size and resources.
- Tips from farm managers: success factors, barriers, staff training ideas.

8. Cost Analysis and Return on Investment (ROI)
- Overview of initial investments: training time, signage, hygiene materials.
- Long-term cost avoidance: fewer outbreaks, fewer vet costs, reduced disruption.
- ROI calculators: examples based on herd size and infection risk reduction.

9. Q&A Session
- Open discussion: What challenges do participants foresee? What setups could benefit most?
- Opportunity to ask specific questions to farm hosts or experts.

10. Wrap-Up & Resources
- Recap of key concepts and benefits of Forward March.
- Handouts with checklists, sample workflows, and hygiene protocols.
- List of biosecurity consultants, relevant guidelines, and continuing education offers.
- Optional: Discount codes for disinfectant suppliers or consulting packages (via sponsors).