

Response to Reviewer Comments for Proposal NE_TEMP2650: Building a Resilient Equine Economy: Sustainable Pathways for Horses and Communities

1. Scope Too Broad

Reviewer Comment Summary: Two reviewers noted that the project scope was too broad and recommended focusing on a single theme, ideally feed, forage, nutrition, and economic resilience. Reviewers indicated there was strong evidence of capability and feasibility for investigating: (1) economic pressures, horse health, and management practices; (2) cost-effective pasture, forage, nutrition, and climate-adaptive management; (3) horse nutrition practices and cost-saving feeding strategies; and (6) extension and outreach activities. However, reviewers found insufficient evidence of capability and feasibility for objectives related to arena footing design and early lameness detection technologies. They recommended removing Objectives 4 and 5.

Response: We agree that the original scope was ambitious. The primary objectives focused on economic pressures, management practices, nutrition, grazing, and extension outreach represent a cohesive and complementary research and extension program. In response to reviewer feedback, we have removed Objective 4 (arena footing) and Objective 5 (early lameness detection technologies). The revised proposal is now more focused on improving the economic resilience of equine operations through management, forage, nutrition, and outreach efforts.

Specific Comments on Removed Objectives:

Objective 4: Reviewers noted that while the need for evaluating arena footing was well justified, the objective lacked sufficient detail regarding how horse health, rider safety, and operational viability would be quantified. This objective has been removed from the proposal.

Objective 5: Reviewers requested additional information regarding Fit Gait technology, ownership, project implementation, and anticipated outcomes. This objective has also been removed from the proposal.

2. Objectives Vary in Detail and Formatting

Reviewer Comment Summary: Objectives varied considerably in depth, detail, formatting, and citation practices. Some objectives contained substantial methodological information and references, while others lacked sufficient detail, creating a piecemeal appearance.

Response: We recognize that contributors provided varying levels of detail across objectives during proposal development. With the removal of Objectives 4 and 5, we have revised the remaining objectives to improve consistency in organization, level of detail, and formatting. Additional methodological information has been incorporated where appropriate to provide a clearer understanding of proposed activities.

We also reviewed and corrected citations throughout the proposal. References that were no longer relevant or cited have been removed, and remaining citations have been standardized to improve consistency and readability.

3. Omissions

A) Milestones (IRB but not IACUC)

Reviewer Comment Summary: Milestones referenced IRB approvals but did not address IACUC approvals.

Response: Discussion of IACUC approvals has been added to Milestones 1 and 2, where applicable, to ensure that all necessary regulatory approvals are clearly identified within the project timeline.

B) Comparison of Motion Detection Technologies

Reviewer Comment Summary : The proposal did not clearly describe how motion detection technologies would be compared.

Response: The project involving motion detection technologies was associated with the former lameness detection objective, which has been removed from the revised proposal. Therefore, this concern is no longer applicable.

C) Outputs and Milestone Alignment

Reviewer Comment Summary: Outputs were not completely aligned with milestone years. For example, survey data could become available before 2030, yet no corresponding outputs were listed until later years.

Response: We revised the timeline to better align outputs with anticipated project milestones. Outputs associated with survey collection, data analysis, and extension products will now be identified in years that more accurately reflect when results are expected to become available.

4. Editorial and Consistency Issues

Reviewer Comment Summary: Numerous editorial inconsistencies were identified throughout the proposal, including inconsistent heading formats, missing punctuation,

repeated sentences, inconsistent capitalization, and references included in the literature cited section that were not cited within the proposal.

Response: We conducted a comprehensive editorial review of the proposal to improve consistency in formatting, organization, and style. Revisions included:

- Standardizing headings and subheadings throughout the document.
- Correcting punctuation errors.
- Removing duplicated text.
- Standardizing capitalization and formatting conventions.
- Reviewing all references and removing sources that were not cited within the proposal.
- Ensuring consistency between objectives and corresponding sections in the "Related, Current, and Previous Work" section.

5. Objective 2 – Consideration of Vitamins and Minerals

Reviewer Comment Summary: Will vitamins and minerals be considered? Beyond digestible energy requirements, micronutrients are often the primary reason commercial concentrates are recommended. It is generally recognized that many cool-season grass hays, particularly those containing alfalfa, can adequately meet energy and protein requirements.

Response: We agree that vitamin and mineral nutrition is an important component of equine feeding programs. When evaluating forage quality, digestibility, and intake, commercial concentrates that primarily supply energy and protein should not be included because they may confound evaluation of the forage itself. However, appropriate vitamin and mineral supplementation will be provided as necessary to meet animal requirements throughout all studies.

To clarify this distinction, we revised the project descriptions within Objective 2. The revised language distinguishes between evaluation of forage-based feeding strategies and the nutritional management practices required to maintain animal health. Consideration of potentially limiting nutrients and micronutrient deficiencies will be incorporated into project-specific analyses based on forage composition and the physiological class of horses participating in each study.