

Submission 1215. Peer-review process

Reviewer D

Round 1

1. Does the paper comply with the scientific quality standards of its field? *

- Yes
 No

2. Are the methods described in detail, so that the experiments are reproducible? *

- Yes
 No

3. Is the statistical analysis of the data appropriate and technically sound? *

- Yes
 No

3.1 If necessary, please, provide a brief explanation of your evaluation of the statistical methods used in the manuscript.

No comments

4. Are the claims/statements/conclusions fully supported by results?*

- Yes
 No
 Partially

4.1 If not, please, indicate the additional evidence that would help accomplishing this requirement.

This reviewer recommends that the authors offer any evidence (supported by their results) of some of the following statements:

1. Lines 383-384. "La abundancia con que los genes PMQR se presentan en SE de muestras bovinas evidencia que están sujetos a presión selectiva en el contexto productivo"
2. Lines 436-437. "Nuestros resultados proveen evidencias adicionales de la presión selectiva a que son sometidos los genes de RAM en SE asociada con producción animal."
3. Lines 449-451. "Adicionalmente, el amplio repertorio de genes de RAM contra las clases de antibióticos evaluadas es una señal inequívoca de que el patógeno está expuesto a estos medicamentos en el contexto productivo."

The reviewer recommends avoiding speculations and only arguing based on their results. On the other hand, the authors could "suggest" the possible reasons for finding those AMR genes but not asseverate them.

5. Are the claims/statements discussed rigorously, in the context of previous scientific literature and knowledge of the field?*

- Yes
- No

6. If your recommended decision is to reject the manuscript in its actual version, is the study promising enough as to encourage the authors to re-submit after a major revision?*

- Yes
- No

7. Is there any ethical concern related to experimental subjects (i. e. animals, humans)?*

- Yes
- No

8. Is there any evidence of manipulation of figures or images that compromise the scientific quality or reliability of the paper?*

- Yes
- No

9. Is the paper clearly written, following standard scientific English?*

- Yes
- No

10. Have the authors made all experimental data fully available to readers?

This requirement can be accomplished through either supplementary files or by depositing data on public repositories.*

- Yes
- No

11. Based on paper content and your global appraisal of it, indicate the type of publication that best fits the manuscript.

- Original research article
- Short communication
- Review

12. I agree to review the updated version of the manuscript. *

- Yes
 No

13. Comments to the editor. Please, include a brief report stating your general appraisal of the paper. Provide the reasons that support your recommended decision of acceptance, rejection or downgrading the paper to a research note.

The authors present exciting research with a contribution to global knowledge but with a regional impact. The manuscript meets the quality criteria, and the results show rigorous scientific analysis. Even though this reviewer considers that the manuscript could improve its writing style, it meets the essential criteria of grammar and semantics. So he leaves it up to the best opinion of the editor. Some concerns related to the discussion are shown in the comments for the authors. The purpose is to suggest that authors avoid speculative statements and only affirm what they can demonstrate with their results. They could, however, argue with potential explanations of any phenomenon based on literature.

Peer-reviewed comments

14. Comments to authors. Please, provide a constructive and thorough review. So, that the authors are able to prepare a revision ready for acceptance without incurring in multiple revision rounds.

Include your specific numbered comments, citing sections or line numbers (eg. L23-35) when appropriate. Do not place comments directly in the manuscript and/or upload a commented manuscript as a review report.

The authors present exciting research on the contamination of ground beef with Salmonella and AMR in various states of the center of Mexico Republic. This research shows a contribution to global knowledge but with a regional impact.

General comments

The manuscript meets the quality criteria, and the results show rigorous scientific analysis.

This reviewer considers that the manuscript could improve its style, but it generally accomplishes grammar and semantic writing in Spanish.

Specific comments

Line 122. The authors wrote "Vassidialis" This reviewer recommends changing it to "Vassiliadis"

Lines 125-126. The authors wrote "se confirmaron bioquímicamente". This reviewer recommends modifying the sentence because biochemical characterization is not a confirmatory test.

Line 140. The authors used *Escherichia coli* ATCC 8739 as the internal quality control in the antimicrobial susceptibility tests. However, the CLSI guidelines recommend using *Escherichia coli* ATCC 25922 as the internal QC for Enterobacteriaceae. This reviewer asks which criteria the authors used to change this bacterial strain.

In the discussion section, this reviewer recommends that the authors offer any evidence (supported by their results) of some of the following statements:

Lines 383-384. "La abundancia con que los genes PMQR se presentan en SE de muestras bovinas evidencia que están sujetos a presión selectiva en el contexto productivo"

Lines 436-437. "Nuestros resultados proveen evidencias adicionales de la presión selectiva a que son sometidos los genes de RAM en SE asociada con producción animal."

Lines 449-451. "Adicionalmente, el amplio repertorio de genes de RAM contra las clases de antibióticos evaluadas es una señal inequívoca de que el patógeno está expuesto a estos medicamentos en el contexto productivo."

The reviewer recommends avoiding speculations and only arguing based on their results. On the other hand, the authors could "suggest" the possible reasons for finding those AMR genes but not asseverate them.

Line 417. The authors wrote GRAM. The reviewer recommends changing to "Gram"

Completed: 2023-05-31 10:39 AM

Recommendation: Revisions Required

Reviewer E

Round 1

1. Does the paper comply with the scientific quality standards of its field?*

Yes

No

2. Are the methods described in detail, so that the experiments are reproducible?*

Yes

No

3. Is the statistical analysis of the data appropriate and technically sound?*

Yes

No

3.1 If necessary, please, provide a brief explanation of your evaluation of the statistical methods used in the manuscript.

4. Are the claims/statements/conclusions fully supported by results?*

- Yes
 No
 Partially

4.1 If not, please, indicate the additional evidence that would help accomplishing this requirement.

5. Are the claims/statements discussed rigorously, in the context of previous scientific literature and knowledge of the field?*

- Yes
 No

6. If your recommended decision is to reject the manuscript in its actual version, is the study promising enough as to encourage the authors to re-submit after a major revision?*

- Yes
 No

7. Is there any ethical concern related to experimental subjects (i. e. animals, humans)?*

- Yes
 No

8. Is there any evidence of manipulation of figures or images that compromise the scientific quality or reliability of the paper?*

- Yes
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9. Is the paper clearly written, following standard scientific English?*

- Yes
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10. Have the authors made all experimental data fully available to readers?

This requirement can be accomplished through either supplementary files or by depositing data on public repositories.*

- Yes
 No

11. Based on paper content and your global appraisal of it, indicate the type of publication that best fits the manuscript.

- Original research article
- Short communication
- Review

12. I agree to review the updated version of the manuscript. *

- Yes
- No

13. Comments to the editor. Please, include a brief report stating your general appraisal of the paper. Provide the reasons that support your recommended decision of acceptance, rejection or downgrading the paper to a research note.

El manuscrito está bien escrito, es claro y contundente, tiene información relevante para el área de estudio y reúne las condiciones de contenido y forma. Además aporta recomendaciones de importante consideración para el sector pecuario por lo que está listo para su publicación en el estado actual.

Completed: 2023-06-02 02:46 PM

Recommendation: Accept Submission

Section Editor recommendation

The recommendation regarding the submission to Veterinaria México OA, "Un Fuertes perfiles de resistencia a antibióticos en Salmonella spp. aislada de carne de res molida en el centro de México: Resistencia a antibióticos en Salmonella procedente de carne de res" is: Request Revisions

Completed: 2023-06-02 03:39 PM

Editor Decision R1

Carlos Mario Campos Granados, Enrique Jesús Delgado Suárez:

Reviewers have commented on your submission to Veterinaria México OA, "Un Fuertes perfiles de resistencia a antibióticos en Salmonella spp. aislada de carne de res molida en el centro de México: Resistencia a antibióticos en Salmonella procedente de carne de res". Reviewers have requested revisions that should be addressed (see below) before the submission is accepted for publication. Therefore, we invite you to submit a revised version of the paper that addresses the points raised during the review process. We kindly suggest the revised version by **July 8, 2023**. If you will need more time than this to complete your revisions, please reply to this message.

Please, upload the following items in the "**Revisions**" section when submitting your revised manuscript:

- **IMPORTANT**-> Be sure **not** to include any data from the authors. If there is a need to update the author information/order, please include it in a new Discussion in the **Review Discussions**.

1) A rebuttal letter that responds to each point raised by reviewers. Please, upload this letter as a separate file labeled "**1215-RR1-yyyymmdd.docx**"

2) A marked-up copy of your manuscript that highlights changes made to the original version. You may use the "track changes" tool of Microsoft Word. However, make sure your name does not appear as the author of the document, to ensure the blind review process. Besides, do not include the authors and their affiliations in this document. As it will only be used for review, it should come with the title, followed by the abstract right away. Please, upload this as a separate file labeled "**1215-VCA-R1-TC-yyyymmdd.docx**"

3) An unmarked version of your revised paper without tracked changes. Please, upload this as a separate file labeled "**1215-VCA-R1-yyyymmdd.docx**"

**Notice yyyymmdd corresponds to the date when the author is submitting the revised manuscript.*

Please, do not submit your revised paper as a new submission to avoid having duplicates in the journal system. Moreover, notice that reviewers may cite specific lines of your manuscript in their comments. For your reference, the review version PDF file used by reviewers is attached to this message. Thank you for submitting your work to Veterinaria México OA.

Kind regards,

2023-06-08

Response to Reviewers

Ciudad de México, 13 de junio de 2023

REPUESTA A OBSERVACIONES DE LA REVISIÓN – RONDA 1

Para atender de manera puntual las observaciones emitidas, estas se escribirán en fuente itálica y se identificarán con la clave de la persona que hizo la revisión y el número consecutivo de la observación (ej. D1, D2, etc.). Posteriormente, se colocará la respuesta de los autores (RA1, RA2, etc.) en fuente normal.

COMENTARIOS DEL REVISOR “D”

D1. The manuscript meets the quality criteria, and the results show rigorous scientific analysis.

RA1. The authors appreciate this comment.

D2. This reviewer considers that the manuscript could improve its style, but it generally accomplishes grammar and semantic writing in Spanish.

RA2. We understand the manuscript will be subjected to professional Spanish editing review and will be glad to follow the instructions in this regard to improve grammar and style.

D3. Line 122. The authors wrote "Vassidialis" This reviewer recommends changing it to "Vassiliadis".

RA3. Accepted and corrected.

D4. Lines 125-126. The authors wrote “se confirmaron bioquímicamente”. This reviewer recommends modifying the sentence because biochemical characterization is not a confirmatory test.

RA4. The authors disagree with this observation. As stated in the methods section, we followed the procedures of NOM-210-SSA1-2014. This regulation uses the term “confirmation” and thus, we decided to keep the original sentence to ensure compliance (please, refer to the following sections of NOM-2010-SSA1-2014):

A.7.3.4 Selección de colonias para su confirmación.

A.7.3.5 Confirmación Bioquímica

D5. Line 140. The authors used Escherichia coli ATCC 8739 as the internal quality control in the antimicrobial susceptibility tests. However, the CLSI guidelines recommend using Escherichia coli ATCC 25922 as the internal QC for Enterobacteriaceae. This reviewer asks which criteria the authors used to change this bacterial strain.

RA5. In this regard, it is important to note that Appendix C of M100 supplement establishes the following (see the NOTE below the table of the recommended QC organisms):

“Other QC strains are used to assess particular characteristics of a test or test system in select situations or may represent alternative QC strains.”

We could no longer use the ATCC 25922 strain that we had bought years ago since our testing showed results that were not falling within specified ranges listed in M100. Hence, we decided to test the *E. coli* ATCC 8739 strain, which was available and is widely used as a quality control organism (refer to <https://www.atcc.org/products/8739>). We decided to use it since its AST results fell within the specified ranges listed in M100 for ATCC 25922. Moreover, we always use *E. coli* ATCC 8739 together with other QC enterobacteria, such as *Pseudomonas aeruginosa* ATCC 27853, to ensure a consistent QC of our testing procedures. The text of this section was modified to make clear we used ATCC 8739 as an alternative to ATCC 25922 in combination with *P. aureginosa* ATCC 27853 (see L140-143 of the updated manuscript).

D6. In the discussion section, this reviewer recommends that the authors offer any evidence (supported by their results) of some of the following statements:

6.1 Lines 383-384. "La abundancia con que los genes PMQR se presentan en SE de muestras bovinas evidencia que están sujetos a presión selectiva en el contexto productivo"

RA6.1 This statement should not be interpreted out of the context of the discussion. In the previous paragraph (L377-382) we mentioned that we observed similar results compared with recent research documenting PMQR genes are widespread in *Salmonella* isolated from cattle in Mexico. We also mentioned that this widespread dissemination is consistent with their plasmid-borne nature, as well as with the decreased susceptibility (intermediate resistance) observed both in our study and in previous research. Hence, the statement of L383-384 does not refer specifically to our results. Instead, it makes a holistic analysis of experimental evidence from the last decade. However, we agree none of the cited research or our study provides evidence of selective pressure. Thus, we agreed to modify the whole paragraph (L383-386) as follows:

"En conjunto, la evidencia experimental acumulada hasta la fecha documenta una abundancia creciente de genes PMQR en SE de muestras bovinas. Ello sugiere que estos genes podrían estar sujetos a presión selectiva en el contexto productivo, lo cual es congruente con el registro de enrofloxacino y ciprofloxacino para el tratamiento de infecciones en esta especie en México".

6.2 Lines 436-437. "Nuestros resultados proveen evidencias adicionales de la presión selectiva a que son sometidos los genes de RAM en SE asociada con producción animal."

RA6.2 This sentence is only the beginning of the idea discussed thereafter (L437-442). We did mention evidence from our results. For instance, we found isolates carried 2-3 genes encoding different resistance factors for a single antibiotic class. We also found evidence of convergent evolution (isolates with the same resistance phenotypes had different AMR genotypes, either a different AMR gene or none of the known AMR genes for this class). At population scale, when organisms develop varied genotypes to support the same phenotype, it means that phenotype is important for survival (i. e. there is selective pressure in that ecological niche). However, we did not mean to imply that we conducted

evolutionary analyses. Hence, to avoid confusing the reader, we made some adjustments in this paragraph (L436-441) to make clear we did not perform evolutionary analysis of AMR genes or isolates in this study:

“Nuestros resultados **sugieren que podría existir presión selectiva sobre algunos genes de RAM** en SE asociada con producción animal. **En este sentido**, observamos que los aislamientos de este estudio portaban entre dos y tres genes codificantes de diferentes factores de RAM para una misma clase de antibióticos. Además, aunque algunos aislamientos no portaban genes de RAM conocidos, presentaron fenotipos resistentes. Ello evidencia convergencia evolutiva de las cepas de SE, al acumular diversos mecanismos de RAM **contra un mismo antibiótico**, a escala poblacional, como respuesta aparente a la presión selectiva que enfrentan en este nicho ecológico. **No obstante, se requieren estudios específicos que aborden la dinámica evolutiva de la RAM en las poblaciones de SE asociadas con bovinos, un área que rebasa los alcances de este trabajo.**”

6.3 Lines 449-451. "Adicionalmente, el amplio repertorio de genes de RAM contra las clases de antibióticos evaluadas es una señal inequívoca de que el patógeno está expuesto a estos medicamentos en el contexto productivo."

The reviewer recommends avoiding speculations and only arguing based on their results. On the other hand, the authors could "suggest" the possible reasons for finding those AMR genes but not asseverate them.

RA6.3 This sentence was adjusted following this reviewer's comment:

“Adicionalmente, el amplio repertorio de genes de RAM contra las clases de antibióticos evaluadas **sugiere** que el patógeno está expuesto a estos medicamentos en el contexto productivo.”

D7. Line 417. The authors wrote GRAM. The reviewer recommends changing to "Gram".

RA7. Accepted and corrected.

Editor Decision

Carlos Mario Campos Granados, Enrique Jesús Delgado Suárez:

Regarding your submission to Veterinaria México OA, "Un Fuertes perfiles de resistencia a antibióticos en Salmonella spp. aislada de carne de res molida en el centro de México: Resistencia a antibióticos en Salmonella procedente de carne de res", I am pleased to inform you that, based on reviewers recommendations, it has been accepted for publication.

The manuscript will enter now the copyediting stage (it may last several weeks). Journal staff will contact you in case of adjustments to the document are needed, as well as to seek your approval of the final proof.

Thank you for publishing your work in Veterinaria México OA. We hope to have further contributions from you in the near future.

Dr. Enrique J. Delgado Suárez
Editor in Chief
Veterinaria México OA

Completed: 2023-06-13