A Manuscript Microscope 'Sentence Audit' of:

Genomic prediction in an outcrossing and autotetraploid fruit crop: lessons from blueberry breeding

What is the Manuscript Microscope Sentence Audit?

The Manuscript Microscope Sentence Audit is a research paper introspection system that parses the text of your manuscript into minimal sentence components for faster, more accurate, enhanced proofreading.

Why use a Sentence Audit to proofread your manuscript?

- Accelerated Proofreading: Examine long technical texts in a fraction of the usual time.
- Superior Proofreading: Detect subtle errors that are invisible to traditional methods.
- Focused Proofreading: Inspect each individual sentence component in isolation.
- Reliable Proofreading: Ensure every single word of your manuscript is correct.
- Easier Proofreading: Take the hardship out of crafting academic papers.

Bonus 1: Improved Productivity: Rapidly refine rough drafts to polished papers.
Bonus 2: Improved Authorship: Cultivate a clear, concise, consistent, writing style.
Bonus 3: Improved Reputation: Become known for rigorously precise publications.

Manuscript Source: https://www.biorxiv.org/content/10.1101/2021.03.05.434007v1

Manuscript Authors: Luís Felipe V. Ferrão, Rodrigo R. Amadeu, Juliana Benevenuto, Ivone de Bem Oliveira & Patricio R. Munoz

Audit Date: 22/03/21 **Audit Identifier:** SWVMQ00GCY5WIQ2 **Code Version:** 3.6

Features of the Sentence Audit:

The Sentence Audit combines two complementary proofreading approaches:

1. Each sentence of your text is parsed and displayed in isolation for focused inspection.
2. Each individual sentence is further parsed into Minimal Sentence Components for a deeper review of the clarity, composition and consistency of the language you used.

The Minimal Sentence Components shown are the smallest coherent elements of each sentence of your text as derived from it's conjunctions, prepositions and selected punctuation symbols (i.e. commas, semicolons, round and square brackets).

The combined approaches ensure easier, faster, more effective proofreading.

Comments and Caveats:

• The sentence parsing is achieved using a prototype natural language processing pipeline written in Python and may include occasional errors in sentence segmentation.

• Depending on the source of the input text, the Sentence Audit may contain occasional html artefacts that are parsed as sentences (E.g. "Download figure. Open in new tab").

• Always consult the original research paper as the true reference source for the text.

Contact Information:

To get a Manuscript Microscope Sentence Audit of any other research paper, simply forward any copy of the text to John.James@OxfordResearchServices.com.

All queries, feedback or suggestions are also very welcome.

Research Paper Sections:

The sections of the research paper input text parsed in this audit.

Section No.	Headings	Sentences
Section: 1	Abstract	10
Section: 2	1 Introduction	17
N/A	--- --- --- --- --- --- ---	0
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The Sentence Audit Of The Research Paper

Title **Genomic prediction in an outcrossing and autotetraploid fruit crop: lessons from blueberry breeding**

S1 [001] Abstract

S1 [002] Blueberry (Vaccinium corymbosum and hybrids) is a specialty crop, with expanding production and consumption worldwide.

Blueberry ...
... (Vaccinium corymbosum ...
... and hybrids) ...
... is a specialty crop, ...
... with expanding production ...
... and consumption worldwide.

S1 [003] The blueberry breeding program at the University of Florida (UF) has greatly contributed to the expansion of production areas by developing low-chilling cultivars better adapted to subtropical and Mediterranean climates of the globe.

The blueberry breeding program ...
... at the University ...
... of Florida ...
... (UF) ...
... has greatly contributed ...
... to the expansion ...
... of production areas ...
... by developing low-chilling cultivars better adapted ...
... to subtropical ...
... and Mediterranean climates ...
... of the globe.

S1 [004] The breeding program has historically focused on phenotypic recurrent selection.

The breeding program has historically focused ...
... on phenotypic recurrent selection.

S1 [005] As an autopolyploid, outcrossing, perennial, long juvenile phase crop, blueberry's breeding cycles are costly and time-consuming, which results in low genetic gains per unit of time.

As an autopolyploid, ...
... outcrossing, ...
... perennial, ...
... long juvenile phase crop, ...
... blueberry's breeding cycles are costly ...
... and time-consuming, ...
... which results ...
... in low genetic gains ...
... per unit ...
... of time.

S1 [006] Motivated by the application of molecular markers for a more accurate selection in early stages of breeding, we performed pioneering genomic prediction studies and optimization for implementation in the blueberry breeding program.

Motivated ...
... by the application ...
... of molecular markers ...
... for a more accurate selection ...
... in early stages ...
... of breeding, ...
... we performed pioneering genomic prediction studies ...
... and optimization ...
... for implementation ...
... in the blueberry breeding program.

S1 [007] We have also addressed some complexities of sequence-based geno- typing and model parametrization for an autopolyploid crop, providing empirical contributions that can be extended to other polyploid species.

We have also addressed some complexities ...
... of sequence-based geno- typing ...
... and model parametrization ...
... for an autopolyploid crop, ...
... providing empirical contributions ...
... that can be extended ...
... to other polyploid species.

S1 [008] We herein revisited some of our previous genomic prediction studies and described the current achievements in the crop.

We herein revisited some of our previous genomic prediction studies ...
... and described the current achievements ...
... in the crop.

S1 [009] In this paper, our contribution for genomic prediction in an autotetraploid crop is three-fold: i) summarize previous results on the relevance of model parametrizations, such as diploid or polyploid methods, and inclusion of dominance effects; ii) assess the importance of sequence depth of coverage and genotype dosage calling steps; iii) demonstrate the real impact of genomic selection on leveraging breeding decisions by using an independent validation set.

In this paper, ...
... our contribution ...
... for genomic prediction ...
... in an autotetraploid crop is three-fold: ...
... i) ...
... summarize previous results ...
... on the relevance ...
... of model parametrizations, ...
... such as diploid ...
... or polyploid methods, ...
... and inclusion ...
... of dominance effects; ...

... ii) ...
... assess the importance ...
... of sequence depth ...
... of coverage ...
... and genotype dosage calling steps; ...
... iii) ...
... demonstrate the real impact ...
... of genomic selection ...
... on leveraging breeding decisions ...
... by using an independent validation set.

S1 [010] Altogether, we propose a strategy for the use of genomic selection in blueberry, with potential to be applied to other polyploid species of a similar background.

Altogether, ...
... we propose a strategy ...
... for the use ...
... of genomic selection ...
... in blueberry, ...
... with potential ...
... to be applied ...
... to other polyploid species ...
... of a similar background.

S2 [011] 1 Introduction

S2 [012] Blueberry (Vaccinium corymbosum and hybrids) is recognized worldwide for its health benefits due to the high content and diversity of polyphenolic compounds (Kalt et al., 2020).

Blueberry ...
... (Vaccinium corymbosum ...
... and hybrids) ...
... is recognized worldwide ...
... for its health benefits ...
... due to the high content ...
... and diversity ...
... of polyphenolic compounds ...
... (Kalt et al., 2020).

S2 [013] Such health-related attributes has resulted in an increased demand for blueberries, as it has become a crop with one of the highest production trends, with an increase of 142% of its production in the last 10 years (FAOSTAT, 2021).

Such health-related attributes has resulted ...
... in an increased demand ...
... for blueberries, ...
... as it has become a crop ...
... with one ...
... of the highest production trends, ...
... with an increase ...

... of 142% ...
... of its production ...
... in the last 10 years ...
... (FAOSTAT, 2021).

S2 [014] In this sense, the blueberry breeding program at the University of Florida (UF) has had a major contribution in the expansion of production areas.

In this sense, ...
... the blueberry breeding program ...
... at the University ...
... of Florida ...
... (UF) ...
... has had a major contribution ...
... in the expansion ...
... of production areas.

S2 [015] Starting in the 1950's, the UF blueberry breeding program led pioneering hybridizations between high-quality US northern adapted species (Vaccinium corymbosum) and endemic US southern species (e.g., Vaccinium darrowii), selecting for low-chill requirements to break dormancy of flower buds (Sharpe and Sherman, 1971; Lyrene, 2000).

Starting ...
... in the 1950's, ...
... the UF blueberry breeding program led pioneering hybridizations ...
... between high-quality US northern adapted species ...
... (Vaccinium corymbosum) ...
... and endemic US southern species ...
... (e.g., Vaccinium darrowii), ...
... selecting ...
... for low-chill requirements ...
... to break dormancy ...
... of flower buds ...
... (Sharpe ...
... and Sherman, 1971; ...
... Lyrene, 2000).

S2 [016] The resulting breeding material and cultivars, known as southern highbush blueberries, established a new industry in Florida and in other warmer regions worldwide, allowing a year-round supply of fresh blueberries for the global market.

The resulting breeding material ...
... and cultivars, ...
... known ...
... as southern highbush blueberries, ...
... established a new industry ...
... in Florida ...
... and in other warmer regions worldwide, ...
... allowing a year-round supply ...
... of fresh blueberries ...
... for the global market.

End of Sample Audit

This is a truncated Manuscript Microscope Sample Audit.

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