

ICTS IN AGRICULTURE: STATE OF THE ART TOOLS FOR BROADER ACCESS TO TROPICAL FORAGE KNOWLEDGE

José Luis Urrea-Benítez¹, Michael Peters², Stefan Burkart¹.

¹International Center for Tropical Agriculture (CIAT), Tropical Forages Program, Cali, Colombia; ²CIAT, Tropical Forages Program, Nairobi, Kenya. CONTACT: j.lurreea@cgiar.org

Context

- » Access to scientific knowledge has greatly increased with the development of information & communication technologies (ICT) and internet connectivity.
- » Bottlenecks exist, e.g. quality issues, affordability (e.g. restricted access to publications or download payments), or an increasing number of “predatory” publishers.
- » To provide high-quality tropical forage knowledge to a wide group of stakeholders, CSIRO, QDPIF, CIAT & ILRI developed two important information tools:

- 1) *Tropical Grasslands-Forrajes Tropicales* (TGFT), a journal that contains >30 years of scientific publications (Figure 1);
- 2) *Tropical Forages*, an interactive tool for selecting optimal forage species for local conditions (Figure 2).

Characteristics

Tropical Grasslands-Forrajes Tropicales

- » International online journal, open access (no subscription or publication fees), bilingual (English and Spanish), peer reviewed and guided by a 23-member Editorial Board.
- » Publishes papers reviewed by the world's leading tropical forage scientists and is indexed in the most recognized databases and journal directories.
- » Access to all papers published in the former journals *Tropical Grasslands* (1967–2010) and *Pasturas Tropicales* (1979–2007). TGFT also follows the publication series of the *Genetic Resources Communications* (1980–2000).

Tropical Forages Selection Tool

- » Detailed information on 172 forage species with potential for use in animal production - characterized by leading tropical forages researchers.
- » Information includes e.g. morphology, distribution, application, edaphoclimatic conditions, agronomic management, nutritional value, productive potential, promising accessions.
- » A set of 19 variables allows users to filter through the species to refine a shortlist for their specific local conditions.
- » Priceless information source for researchers, extension services or farmers seeking to improve animal productivity and sustainability.

Usage and impact

Tropical Grasslands-Forrajes Tropicales

- » Sustained growth since inception (2014), reaching more than 228,000 visits in 2019 alone. Main metrics (2019):

Clarivate Analytics JCR Impact Factor: 0.7

Scopus Scopus CiteScore: 1.4

SJR SCIMago Journal Rank: 0.37

SciELO i10-index: 43

Jisc RoMEO Green Journal (Gold Open Access status).

- » TGFT has published 297 papers (including 119 contributions to the *International Grassland Congress 2013* and 60 contributions to the *International Leucaena Conference 2018*).

Tropical Forages Selection Tool

- » Launched in 2005 and updated in 2020: Among the most widely used (350,000 annual visits) and cited (450 citations in scientific publications) tropical forages databases.
- » Users can request seed samples for trials from the linked CGIAR genebanks. Forage seeds in small experimental quantities mostly free of charge.

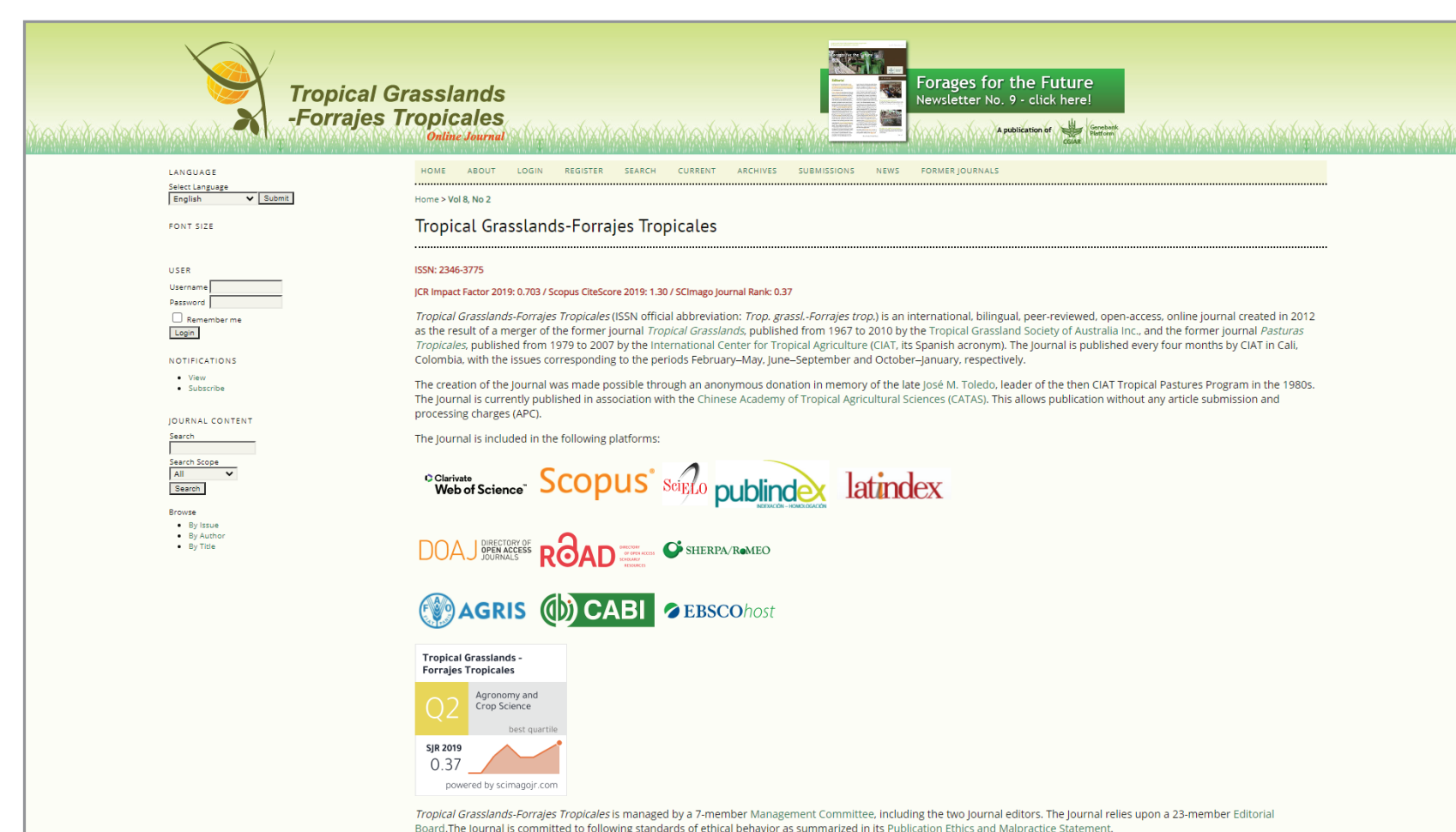


Figure 1. Screenshot of TGFT Online Journal.

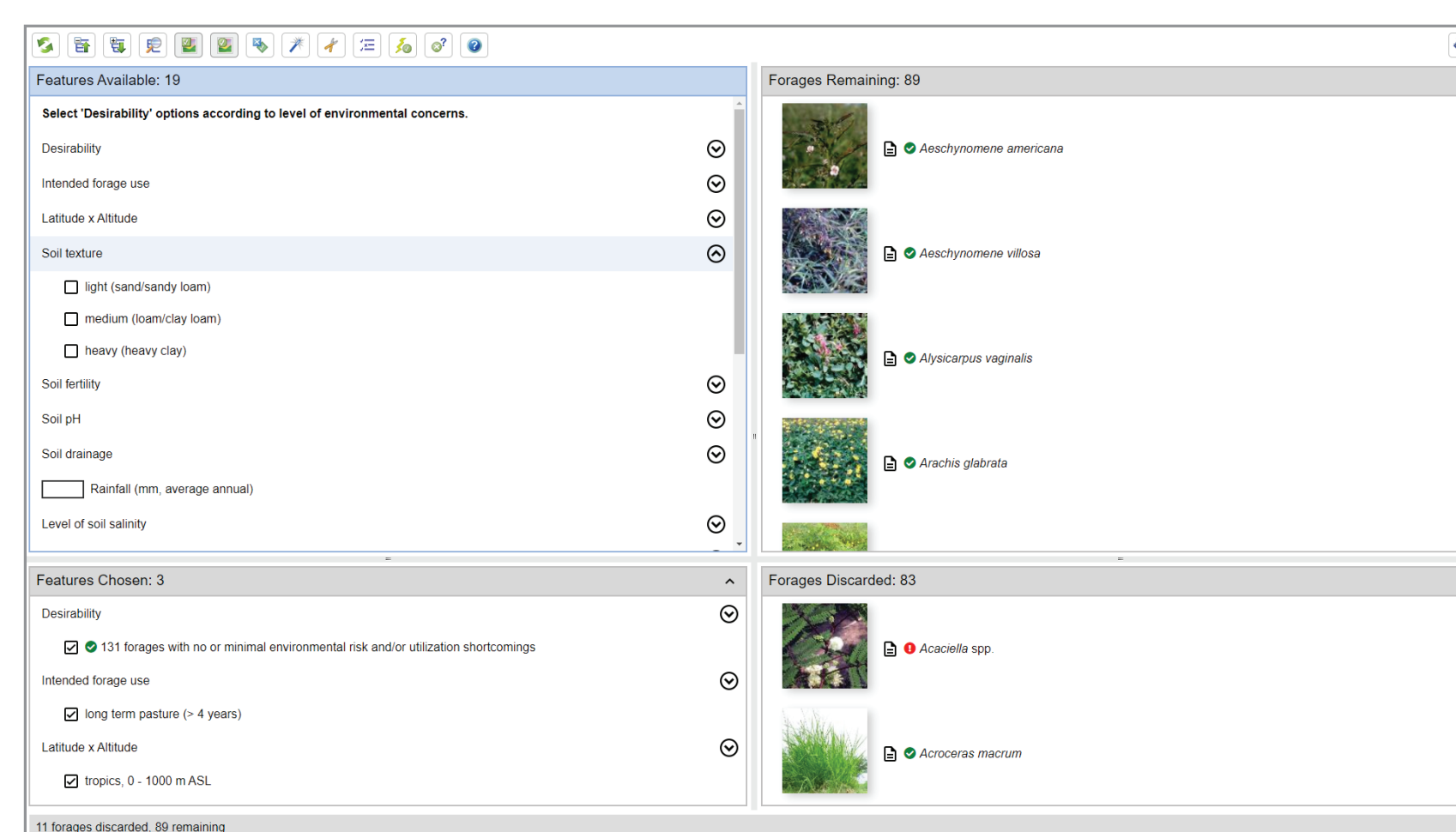


Figure 2. Screenshot of Tropical Forages.

Access

TGFT: www.tropicalgrasslands.info

Tropicalforages: www.tropicalforages.info

Outlook

- » TGFT's goal is to become a global benchmark in forage research, supporting the publication of results from the global tropics by following rigorous scientific standards.
- » By constantly improving its metrics and reputation, the journal aims to lead to a global information exchange platform and to facilitate tropical forages networking with subsequent benefits for R&D.
- » *Tropical Forages* had a comprehensive update and was relaunched in 2020: Redesign, revision and addition of factsheets, update of the photo library and recalibration of the selection tool.
- » A key feature of the new edition is an update of the underlying technology platform to enable its distribution on mobile devices and the web without additional software.

Acknowledgements

This work was conducted as part of the CGIAR Research Program on Livestock, and is supported by contributors to the CGIAR Trust Fund. CGIAR is a global research partnership for a food-secure future. Its science is carried out by 15 Research Centers in close collaboration with hundreds of partners across the globe.

Tropical Grasslands-Forrajes Tropicales is currently published in association with the Chinese Academy of Tropical Agricultural Sciences (CATAS). Their contribution allows publication without any article submission and processing charges (APC).

Both the 2005 and 2019 projects of *Tropical Forages* have been primarily funded by the Australian Centre for International Agricultural Research (ACIAR) with support from funds provided by the German Federal Ministry for Economic Cooperation and Development (BMZ); the UK Department for International Development (DFID) provided additional support funding for the original project.

References

Schultze-Kraft R; Winks L; Bai C; Clements RJ; Larbi A; Peters M; Valle CB do. 2013. Empowering the next generation of tropical forage researchers: A new e-journal for the 21st Century. In: Michalk DL; Millar GD; Badgery WB; Broadfoot KM, Eds. Revitalising grasslands to sustain our communities: Proceedings of the 22nd International Grasslands Congress, Sydney, Australia, 15–19 September 2013. Australia: New South Wales Department of Primary Industry. p. 1950–1952. <https://uknowledge.uky.edu/igc/22/3-9/3/>

Cook BG; Pengelly BC; Schultze-Kraft R; Taylor M; Burkart S; Cardoso Arango JA; González Guzmán JJ; Cox KG; Jones CS and Peters M. 2020. Tropical Forages: an interactive selection tool. 2nd and revised Edn. CIAT (International Center for Tropical Agriculture) and ILRI (International Livestock Research Institute) www.tropicalforages.info; www.forrajestropicales.info. Digital ISBN 978958694234-8.