



SSA Feed Database: A Centralized Platform for Feed Data Management in Sub-Saharan Africa

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INFO

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EXECUTIVE SUMMARY

The SSA Feed Database (SSA Feed DB) is a centralized digital platform developed to improve access to reliable and standardized feed composition data across Sub-Saharan Africa. It consolidates feed information from multiple sources into a single system, ensuring data quality through structured validation and approval processes. The platform supports different user roles, enabling controlled data submission, review, and public access to approved information. With user-friendly search, filtering, and visualization features, SSA Feed DB enhances transparency and usability of feed data. Overall, the system strengthens evidence-based decision-making and supports sustainable livestock development initiatives across the region.

Introduction

The SSA Feed Database (SSA Feed DB) has been developed as a comprehensive and reliable platform to support livestock research, development programmes, and decision-making across Sub-Saharan Africa. Feed availability and quality are critical factors influencing animal productivity, farm profitability, and overall food security in the region. However, feed-related information is often scattered across institutions, projects, and countries, making it difficult for users to access consistent and trusted data.

SSA Feed DB addresses this challenge by serving as a centralized, user-friendly repository that brings together validated feed composition data from multiple sources into a single system. Designed for both technical and non-technical audiences, the platform emphasizes transparency, accessibility, and data quality while ensuring appropriate controls for data submission and approval. This report provides an overview of the system, its user roles, features, and key components in a clear and explanatory manner.

Overview

- The SSA Feed Database is a centralized data management system created to collect, store, validate, and manage feed-related data generated through Sub-Saharan Africa programmes, ensuring that valuable data is not lost or fragmented across projects.
- The system allows secure ingestion of feed data from multiple sources, including research institutions and country-level initiatives, while maintaining consistency and accuracy through standardized templates and validation rules.
- By acting as a single source of truth, SSA Feed DB ensures that users access the same approved and verified feed information, reducing duplication, confusion, and inconsistencies in reporting and analysis.
- Controlled access mechanisms ensure that data is handled responsibly, with clear separation between public viewing, data submission, and approval functions.

User Roles and Access Levels

To balance openness with data quality and security, the SSA Feed DB uses clearly defined user roles.

No Login User (Public / Guest User)

- No Login Users can access the SSA Feed Database without authentication, making approved feed data widely accessible to the public.
- These users can view only approved data and are limited to accessing the Home, Variables, and Info pages.
- They cannot edit, submit, approve, or manage any feed data, ensuring that public access does not compromise data quality or security. (Figure 1)

Manager

- The Manager role has higher-level access designed to support oversight, monitoring, and quality assurance of feed data within the system.
- Managers can view all submitted and approved feed data, monitor feed execution and submission status, and review error logs to identify and resolve data quality issues.

- This role enables Managers to approve or reject feed data submissions, ensuring that only validated and reliable data is published for wider use.

- While Managers have extensive operational control, this role does not include full system-level administration, maintaining a balance between governance and usability. (Figure 2)

General User

- The General User role is intended for users who contribute or review feed data but do not have approval authority.
- General Users can view feed data assigned to them, track the status of their submissions, and access approved feed information for reference.
- They cannot modify existing feed records, access error logs, or perform administrative or approval-related actions.
- This role supports routine operational use while protecting data integrity. (Figure 3)

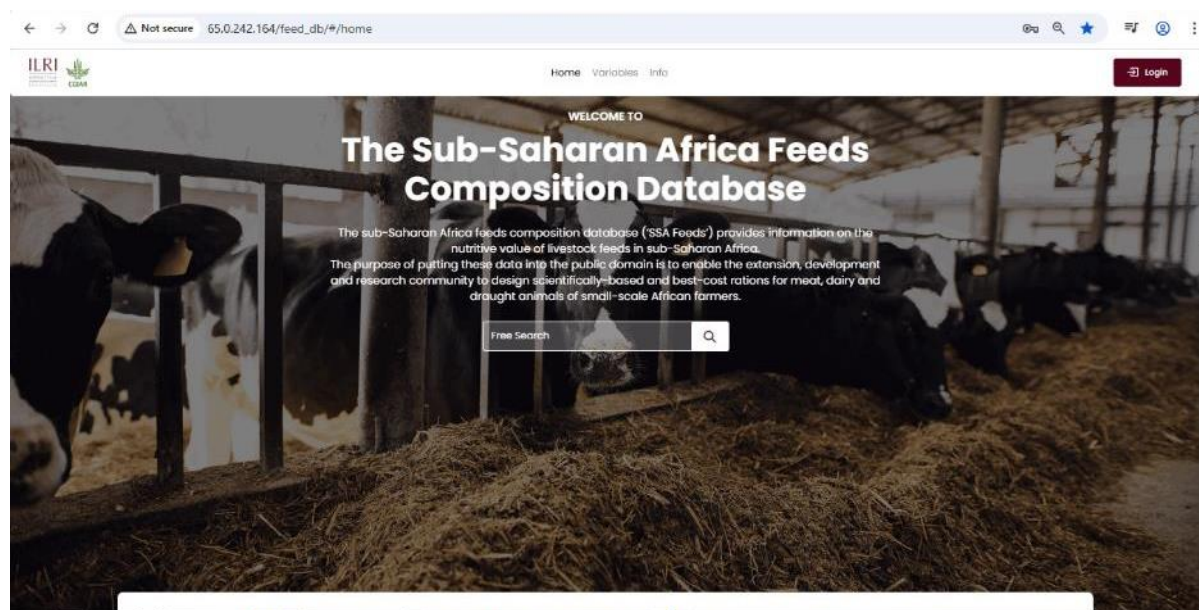


Figure 1: Home page

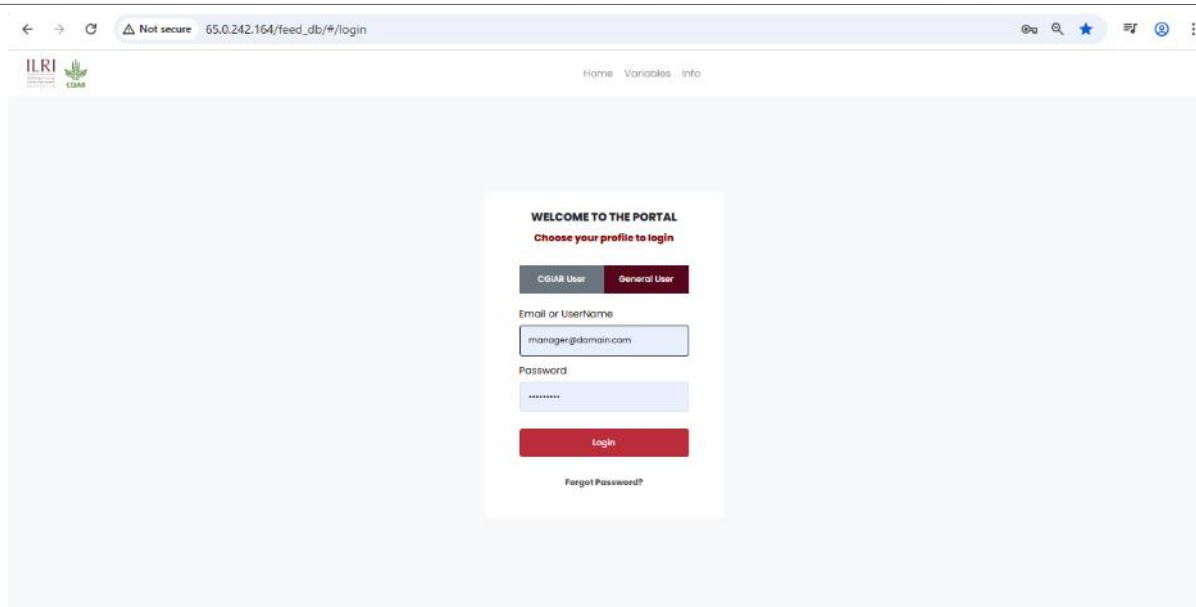


Figure 2: Login screen (Manager)

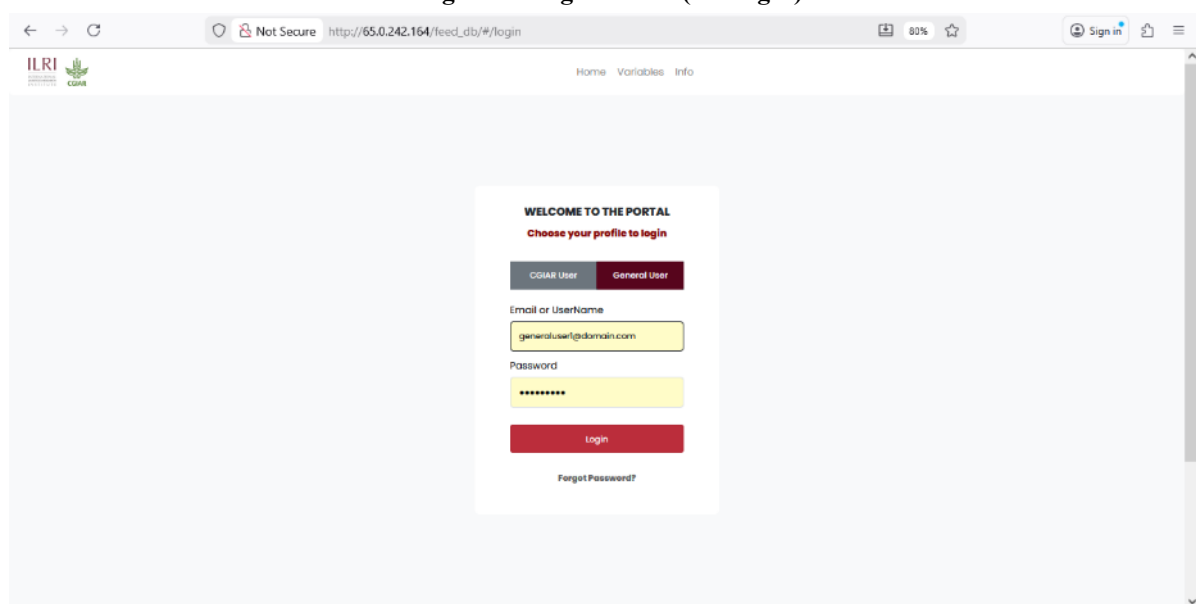


Figure 3: Login screen (General user)

Home Page and Public Access

- The Home Page is a common entry point for all user roles, including Managers, General Users, and No Login (Guest) users.
- It is publicly accessible without login and provides an overview of the SSA Feed Composition Database in a simple and intuitive layout.
- Users can browse approved feed data in read-only mode, ensuring transparency while maintaining control over data modification.
- The Home Page includes a free search function, filter options, and category-wise feed cards to support easy exploration of feed information (Figure 4).

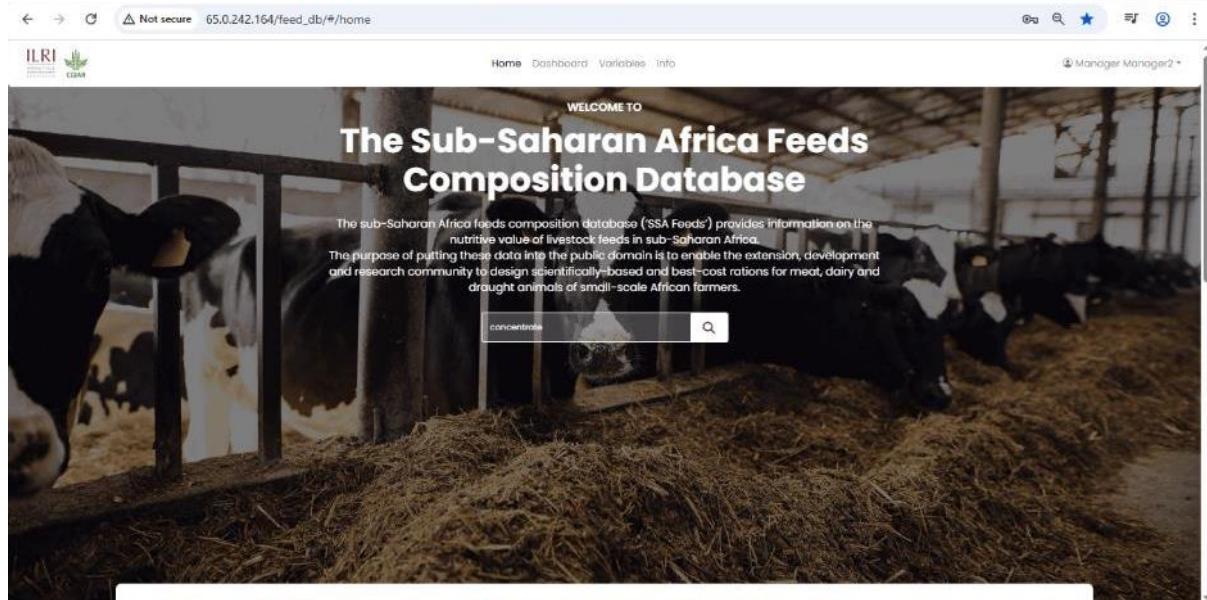


Figure 4

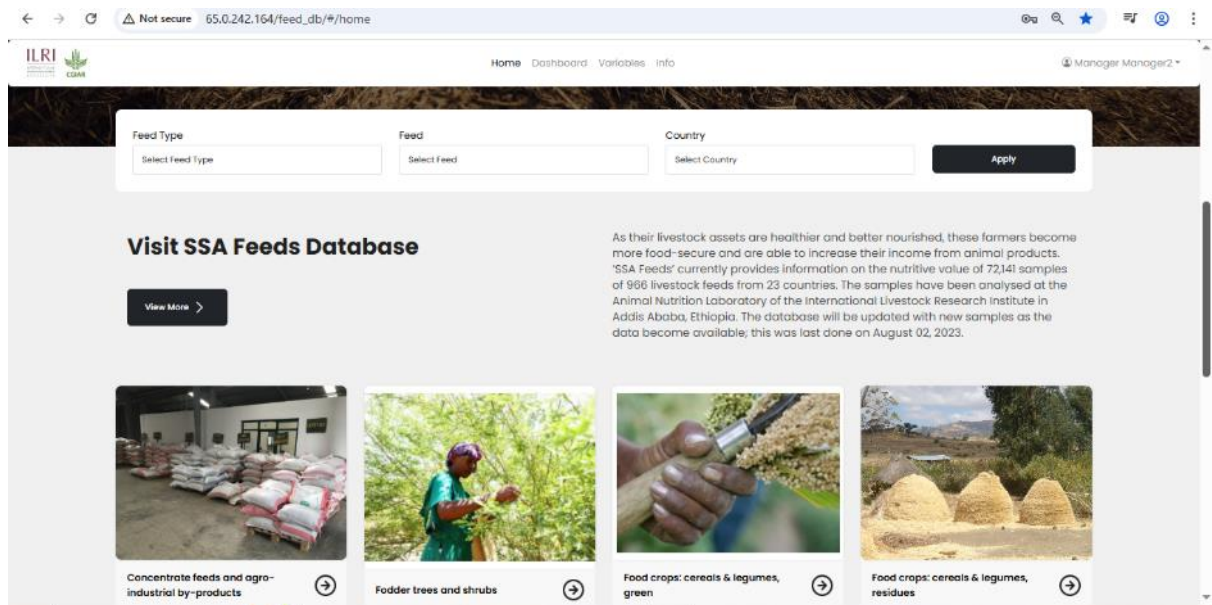


Figure 5

Search, Filters, and Navigation Tools

Free Search

- The Free Search feature allows users to search for feed data using keywords related to feed names or categories.
- Search results are displayed immediately below the

Home Page, allowing users to quickly identify relevant feed records.

- Users can click on individual results to view detailed, approved feed data.

Filters

- The Filters feature enables users to narrow down feed data by selecting Feed Type, Feed, and Country.

- Once filters are applied, the system retrieves and displays only the approved feed records that match the selected criteria. (Figure 6)
- This feature supports targeted data exploration, particularly useful for country-specific or feed-type-specific analysis.

View More

- The View More option allows users to explore detailed information for a selected feed category.
- It navigates users to a category-specific page where they can view a complete list of feeds, search within that category, and filter results further by country.
- Users can then select individual feeds to access approved feed data in detail.

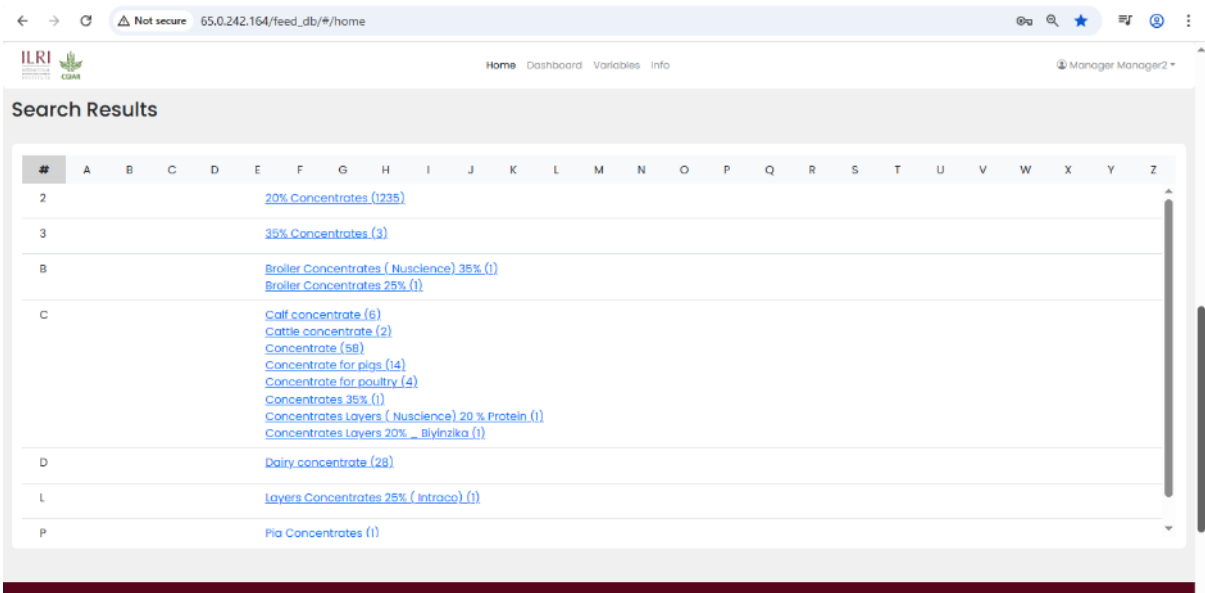


Figure 6

Feed Cards and Feed Data Display

Feed Cards

- Feed Cards present feed categories in a visual, card-based format on the Home Page, making browsing intuitive even for non-technical users.
- Each card represents a feed category and serves as a gateway to detailed, category-specific feed data. (Figure 7)

Feed Data

- The Feed Data view displays approved information for

a selected feed, including scientific name, feed name, and the total number of records available.

- Nutritional parameters such as dry matter, crude protein, fibre fractions, and minerals are shown in a tabular format with country-wise values.
- Summary statistics, including total count, average, minimum, and maximum values, are provided to help users interpret data ranges.
- Breadcrumb navigation allows users to easily return to previous pages, while options to export data and view variable definitions support transparency and usability.

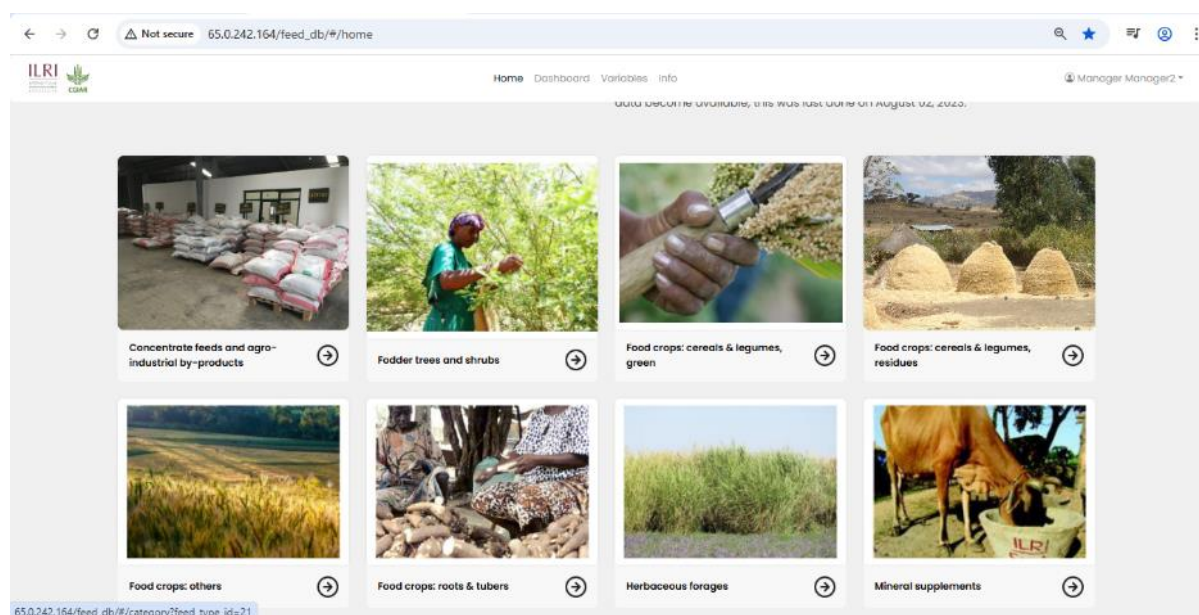


Figure 7

Feed Types Covered in the Database

The SSA Feed DB organizes feeds into clearly defined categories: (Figure 7)

- Concentrate feeds and agro-industrial by-products include nutrient-rich materials and processing by-products used to supplement livestock diets and enhance productivity.
- Fodder trees and shrubs consist of leaves, stems, and pods from trees and shrubs, often used as strategic feed resources during dry seasons.
- Food crops (cereals and legumes – green) include fresh and green parts of crops fed directly to livestock.
- Food crops (cereals and legumes – residues) cover crop residues such as straw, husks, and stover remaining after harvest.
- Food crops (others) include feed materials derived from food crops that do not fall under standard cereal, legume, root, or tuber categories.
- Food crops (roots and tubers) include roots, tubers, and their by-products used in livestock feeding.
- Herbaceous forages include grasses and herbaceous

plants used in grazing or cut-and-carry systems.

- Mineral supplements include mineral-based feeds designed to meet specific nutrient requirements of livestock.
- Other less common feeds include region-specific or occasionally used feed materials.

Dashboard and Feed Submission Workflow

Dashboard and Data Submission

- The Dashboard is accessible to Manager and General User roles and provides a summary view of total feeds, variables, active countries, and users. (Figure 8)
- It includes visual charts showing feed submission status by country and feed type, supporting quick monitoring of system activity.
- The Add New Feed option allows users to submit new feed data using standardized templates.

Add New Feed and Recent Requests

- Users must download and complete a predefined

- template to ensure data consistency and standardization. (Figure 9)
- Only CSV and XLSX formats are accepted, and uploaded data undergoes validation before review.
- Newly submitted feeds appear in the Recent Requests section with clear status indicators. (Figure 10)
- Manager-submitted feeds are auto-approved, while General User submissions require Manager approval. (Figure 11)

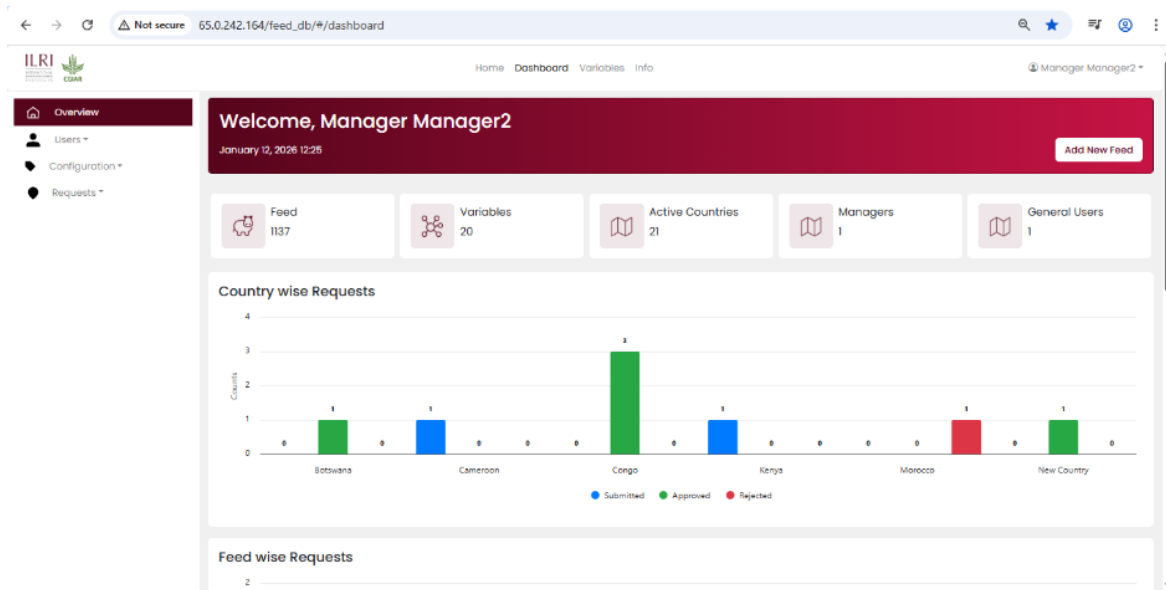


Figure 8

The screenshot shows the ILRI CSMA dashboard with a 'Feed Type' modal form open. The form contains the following fields and options:

- Feed Type***: Concentrate feeds and agro-industrial by-products
- Feed Name***: 20% Concentrates
- Scientific Name**: NA
- Country***: D.R. Congo
- Upload Documents***: A section with a 'Download Template' button and a file upload area. The text below the upload area reads: 'Kindly download the template and input the data according to the format specified in the template. Formats accepted: .csv and .xlsx files only'.
- Buttons**: 'Cancel' and 'Upload' buttons at the bottom of the modal.

The background dashboard shows the same metrics as Figure 8, with the 'Country wise Requests' chart and 'Feed wise Requests' section.

Figure 9

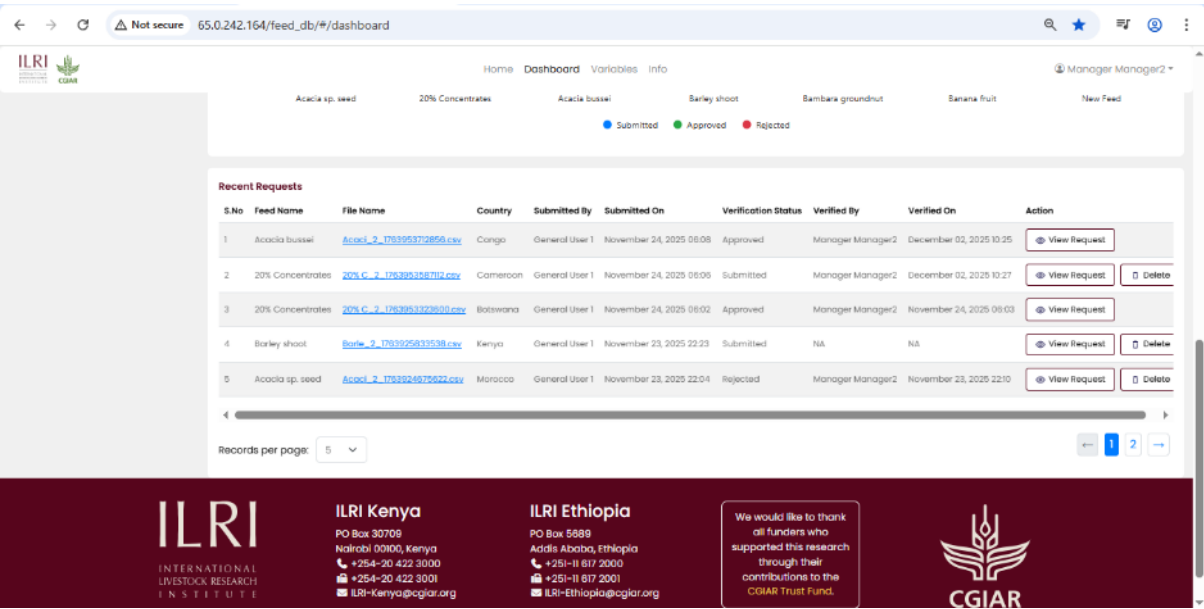


Figure 10

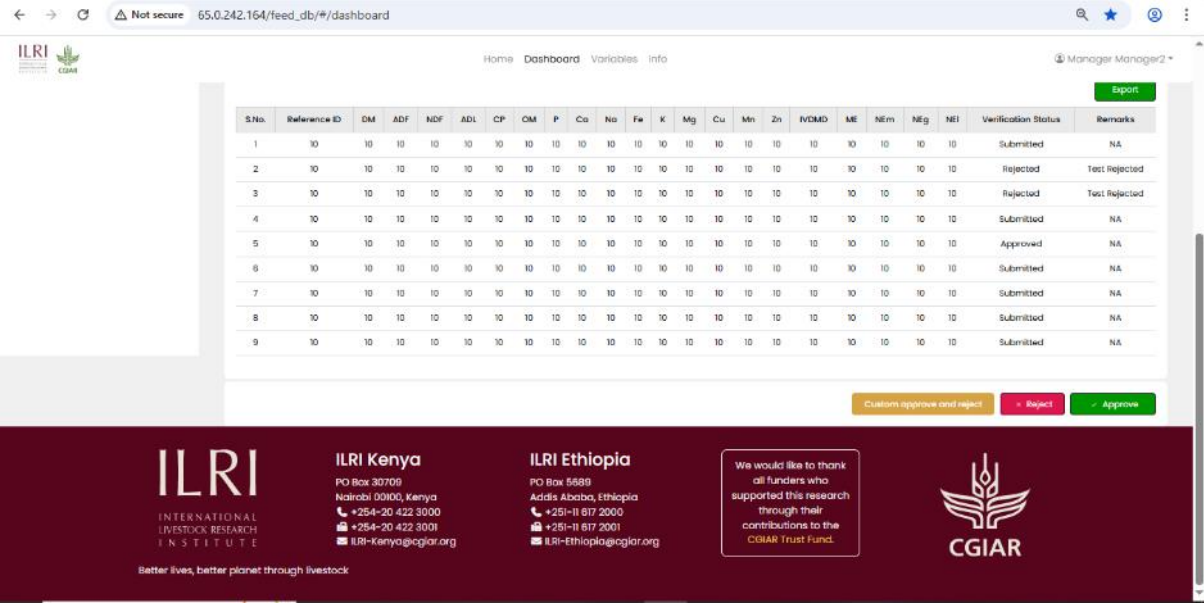


Figure 11

User and Access Management

- The Users section, accessible only to Managers, supports role-based access control and system governance.

- Managers can add, edit, search, and manage System Users and Guest Users. (Figure 12-13)
- Guest registration is required for exporting approved data, with email verification ensuring responsible data use. (Figure 14)

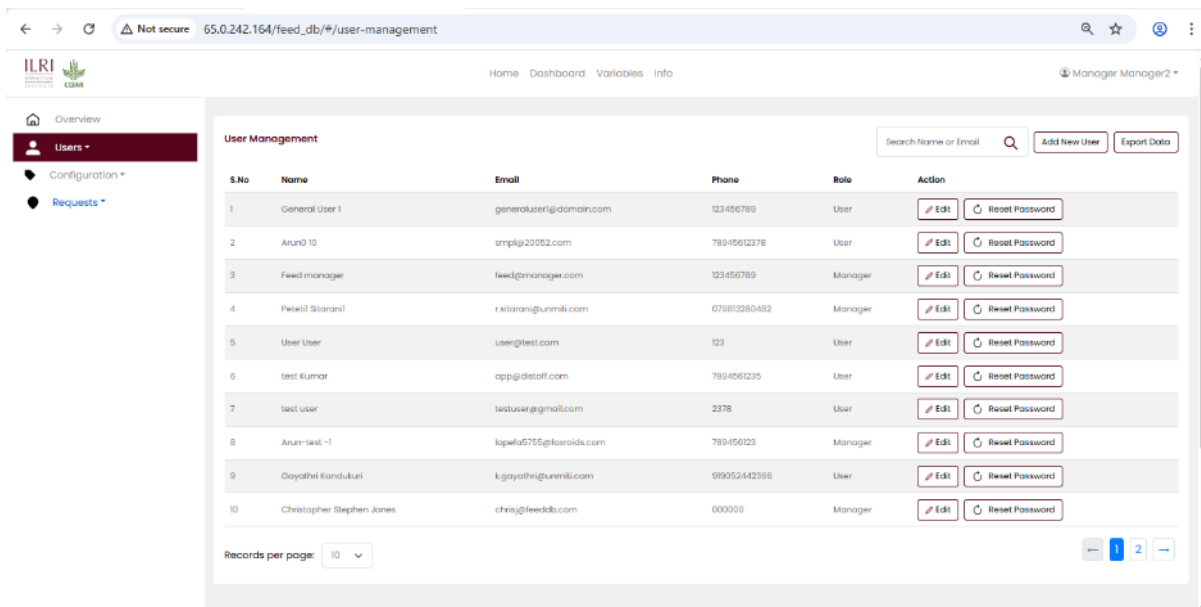


Figure 12

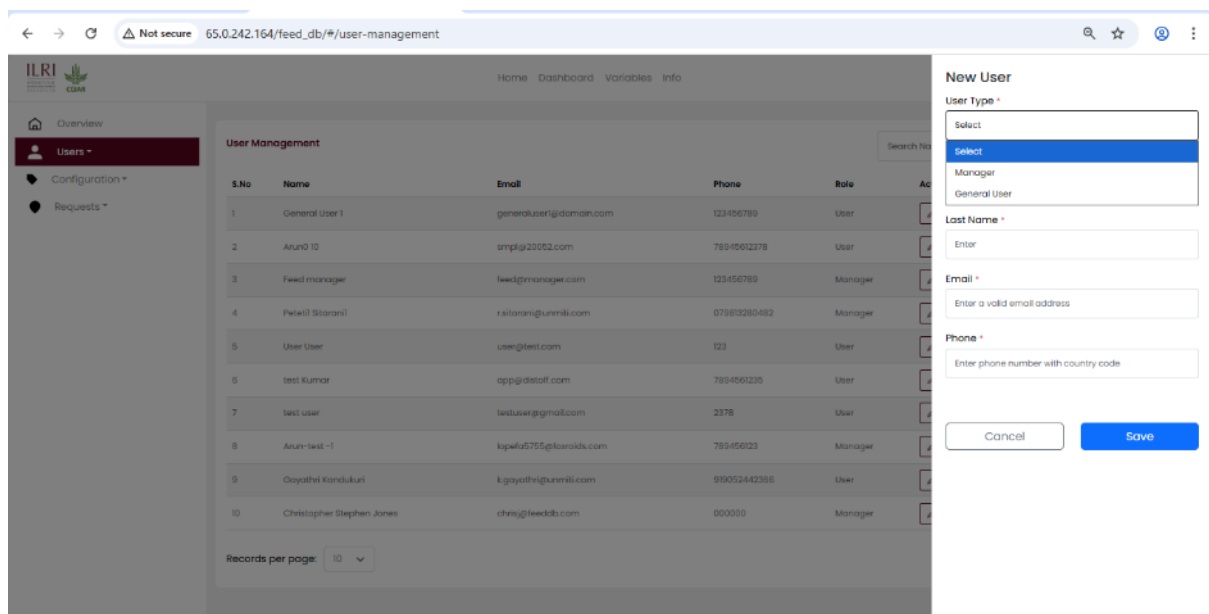


Figure 13

Not secure 65.0.242.164/feed_db/#/details?feed_type_id=21&feed_id=140&feed_name=35%25%20Concentrates&feed_type_name=Concentrate%20feeds%20and... Login

Home / Concentrate feeds and agro-industrial by-products / 35% Concentrates

Scientific name: 35% Concentrates
Feed name: 35% Concentrates
Total Records: 3

Reference ID	DM	ADF	NDF	ADL	CP	OM
NA	93.26	7.03	12.31	3.96	NA	NA
NA	92.81	7.53	8.54	3.19	NA	NA
NA	92.39	8.44	8.56	4.22	NA	NA
Total COUNT	3	3	3	3	0	0
Total AVG	92.82	7.67	9.84	3.79	0.00	0.00
Total MIN	92.39	7.03	8.54	3.19	0.00	0.00
Total MAX	93.26	8.44	12.31	4.22	0.00	0.00

First Name*
test

Last Name
test

Email*
test@gmail.com

Country*
New Country

Organization*
test

Cancel Submit

Export Data

See the variable name, units, and analysis method for each of the variables below.

Zn	IVDMD	ME	NEm	NEm	NEI	Country
NA	97.14	13.54	NA	NA	NA	Uganda
NA	98.81	13.86	NA	NA	NA	Uganda
NA	93.22	13.15	NA	NA	NA	Uganda
0	3	3	0	0	0	-
0.00	96.39	13.55	0.00	0.00	0.00	-
0.00	93.22	13.15	0.00	0.00	0.00	-
0.00	98.81	13.86	0.00	0.00	0.00	-

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Figure 14

Configuration, Requests, and Reference Information

- Configuration sections allow Managers to maintain master data such as feed types, countries, crop names, and variables used across the system. (Figure 15)
- The Requests section provides multiple views to track submissions by status, feed type, country, and user.

(Figure 16-17)

- The Variables section explains nutritional parameters, data sources, units, and analytical methods to support correct interpretation. (Figure 19)
- The Info section provides references, external links, credits, and contact details, helping users understand data ownership and access further support. (Figure 18)

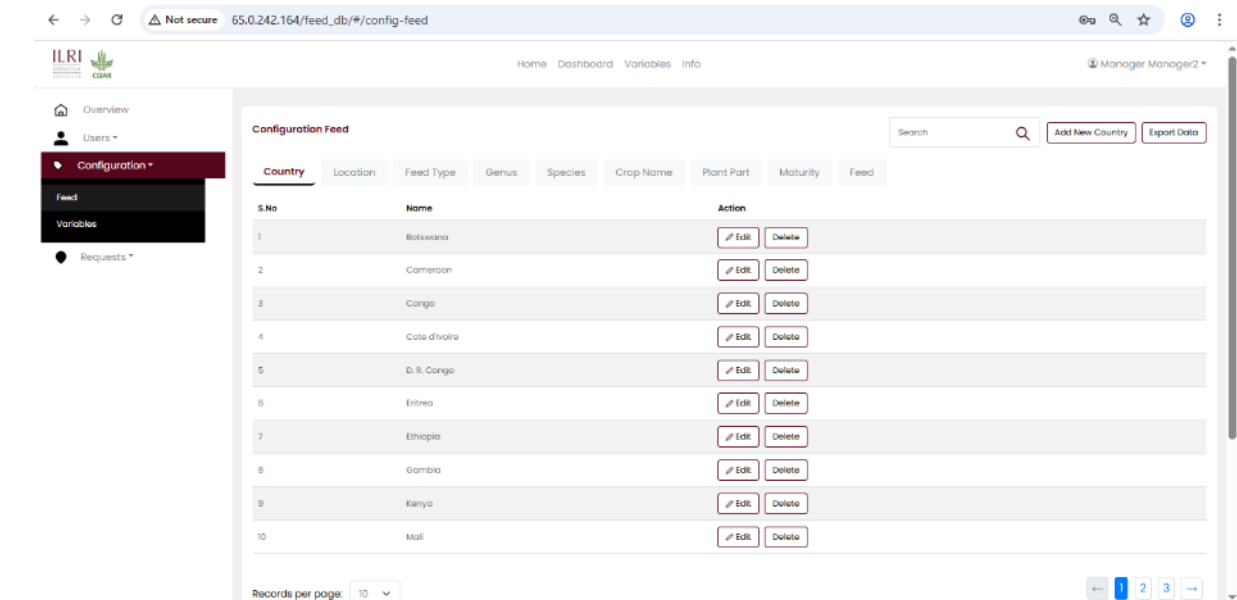


Figure 15

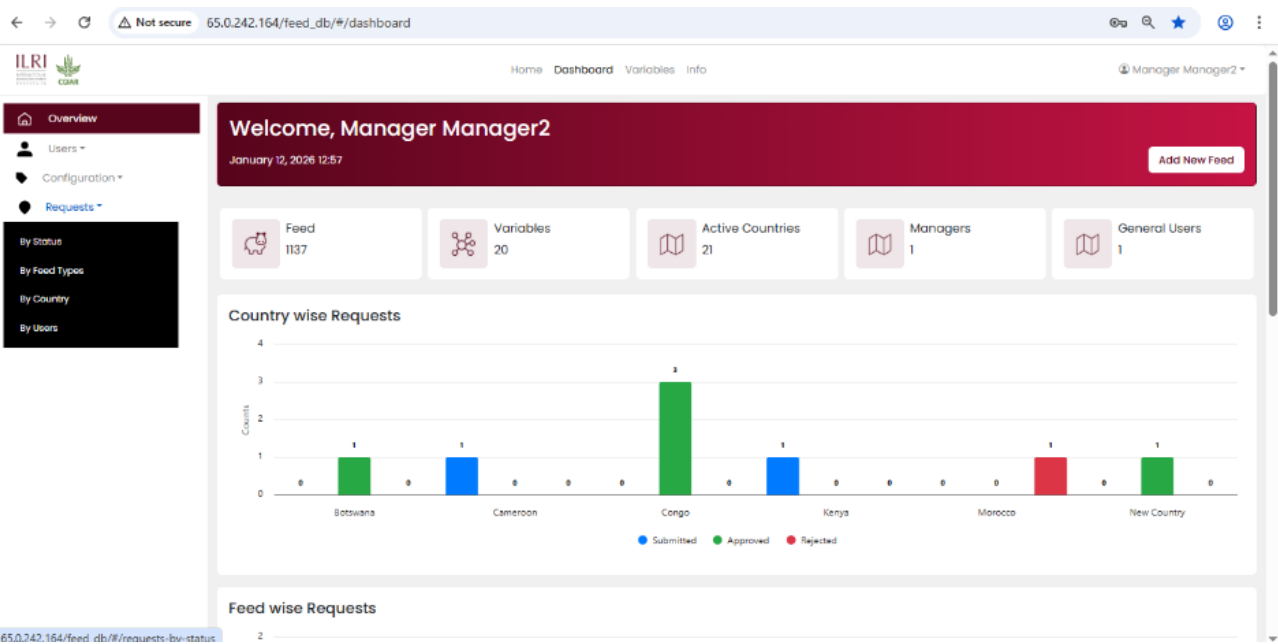


Figure 16

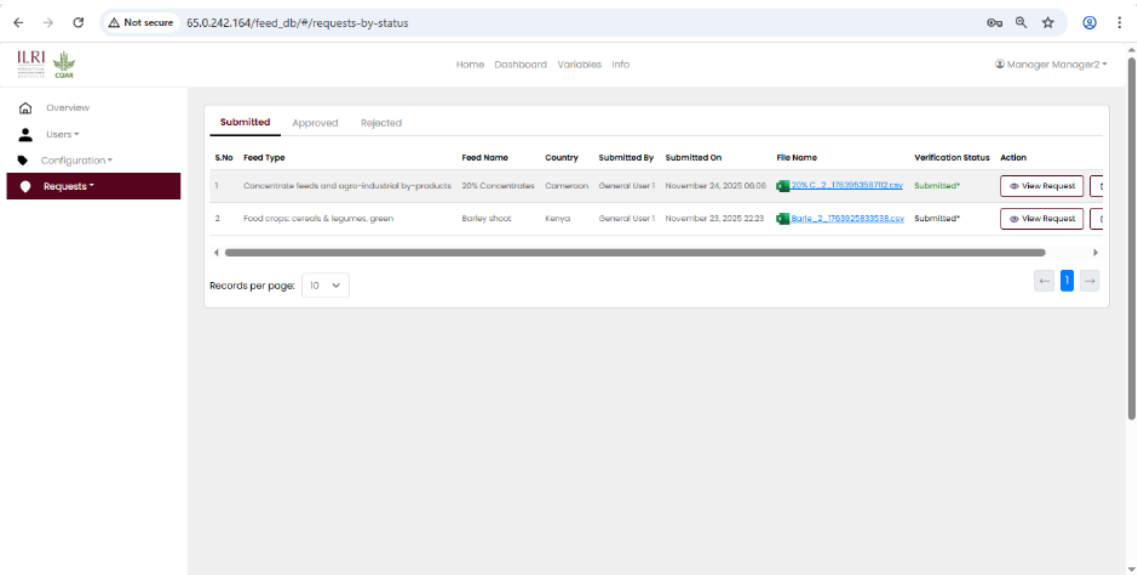


Figure 17

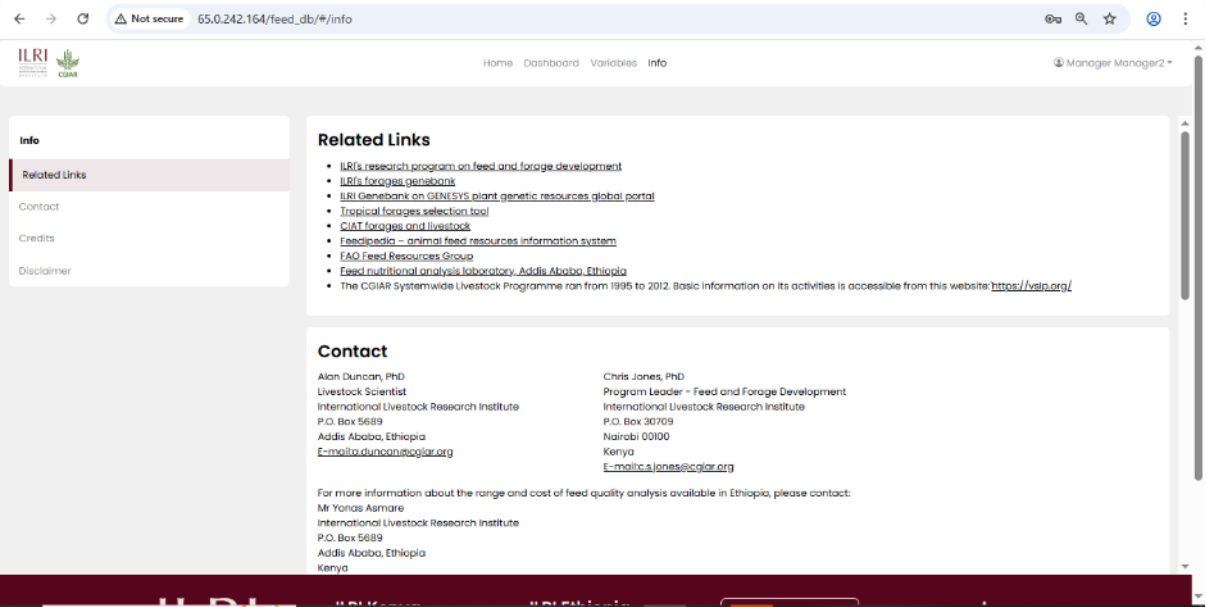


Figure 18

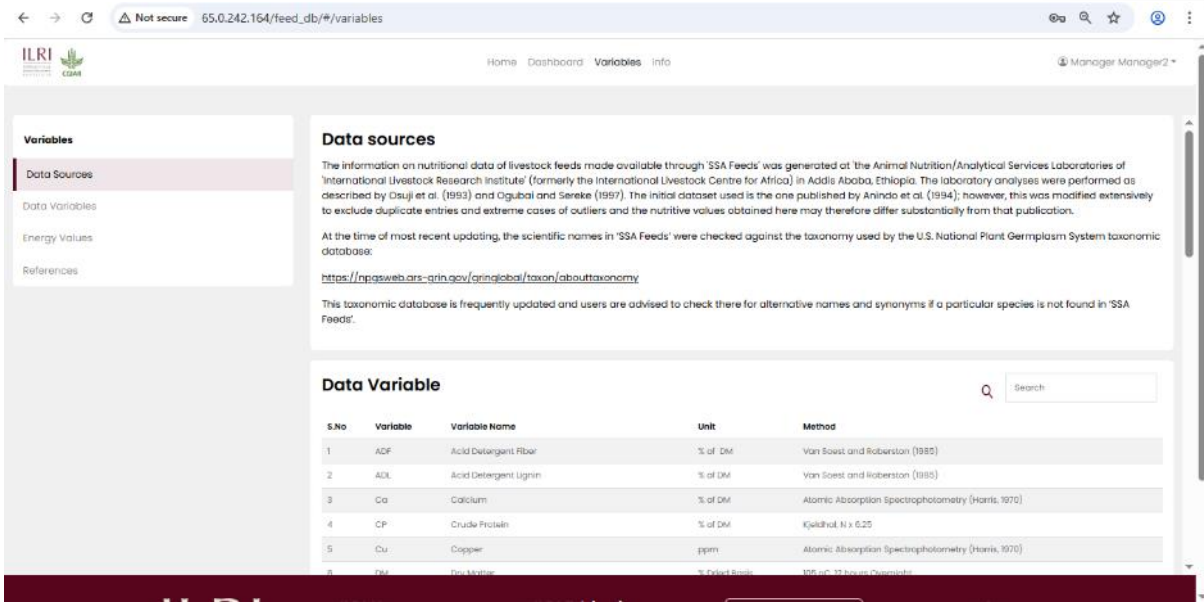


Figure 19

Conclusion

The SSA Feed Database represents an important step towards improving access to reliable, standardized feed data across Sub-Saharan Africa. By combining controlled data submission, robust validation processes, and open access to approved information, the platform supports evidence-based decision-making for researchers, development practitioners, and

policymakers. Its user-friendly design ensures that both technical and non-technical users can benefit from the system, ultimately contributing to improved livestock productivity, sustainable feeding practices, and stronger agricultural outcomes in the region.

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