

# CattleManagement.Online User Manual

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## Welcome to BosSires R&D Cattle Management Platform

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This comprehensive guide will help you make the most of your cattle management system. Our platform combines intelligent cattle tracking, AI-powered analysis, and cloud-based management to enhance productivity in your livestock operations.

**About the Screenshots:** This manual includes real screenshots from Kallion Farms, one of our active ranch operations. All screenshots show actual working features and data to give you a clear understanding of how the system works in practice.

## Table of Contents

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1. [Getting Started](#)
2. [Dashboard Overview](#)
3. [Cattle Management](#)
4. [Ranch Management](#)

5. [Pasture Management](#)
6. [Registration & Fees](#)
7. [Marketplace](#)
8. [Image & Video Management](#)
9. [Document Management](#)
10. [Measurements & Analysis](#)
11. [Voice Commands](#)
12. [Shopping Cart & Checkout](#)
13. [Mobile App \(iOS\)](#)
14. [Tips & Best Practices](#)

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## Getting Started

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### Creating Your Account

1. Visit **cattlemanagement.online**
2. Click "**Sign Up**" in the top right corner
3. Enter your email address and create a secure password
4. Verify your email address
5. Complete your profile with ranch information

### Logging In

1. Navigate to the login page
2. Enter your username or email
3. Enter your password
4. Click "**Login**"

**Tip:** The system remembers your preferences, including your preferred measurement system (imperial/metric) and language.

## First-Time Setup

After logging in for the first time:

1. **Set Up Your Ranch** - Add your ranch details, location, and operation type
2. **Configure Preferences** - Choose your measurement system and language
3. **Add Your First Cattle** - Start building your herd database
4. **Upload Images** - Add photos of your cattle for AI analysis

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## Dashboard Overview

Your dashboard provides a quick overview of your operation:

- **Total Ranches** - Number of ranches you manage
- **Total Cattle** - Complete herd count
- **Recent Activity** - Latest cattle additions and updates
- **Quick Actions** - Fast access to common tasks

### Dashboard Overview

Figure 1: Main dashboard showing system statistics and navigation menu

## Navigation Menu

- **Cattle** - Manage your herd

- **Ranches** - Ranch information and settings
- **Images** - Photo gallery and management
- **Measurements** - Weight and body condition tracking
- **Marketplace** - Buy and sell cattle
- **Upload Queue** - Batch image processing
- **Voice Commands** - Voice-controlled operations
- **Admin** (for admin users) - System administration

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## Cattle Management

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### Viewing Your Cattle

Navigate to **Cattle** to see your herd. You have three view options:

#### 1. Row View

- Shows cattle in a list format with images
- Displays key information: name, PHN, registration number, breed, sex
- Includes selection checkboxes for bulk actions

#### Cattle List - Row View

Figure 2: Cattle list in Row View showing images, key information, and selection checkboxes for Kallion Farms cattle

#### 2. Card View

- Grid layout with cattle cards
- Visual presentation with images
- Quick access to details

### 3. Analysis View (Data Table)

- Comprehensive table with all data columns
- Customizable column visibility
- Sortable by any field
- Perfect for data analysis and comparison
- Includes selection checkboxes for bulk registration

#### Cattle List - Analysis View

Figure 3: Cattle list in Analysis View showing comprehensive data table with column visibility controls and checkboxes

### Filtering & Searching

- **Search Bar** - Find cattle by name, registration number, ear tag, or PHN
- **Ranch Filter** - View cattle from specific ranches
- **Records Per Page** - Choose 20, 50, 75, or 100 cattle per page
- **Sort Options** - Click column headers to sort by any field

### Adding New Cattle

1. Click "**Add Cattle**" button
2. Fill in the required information:
3. **Name** - Cattle's name or identifier
4. **PHN** (Permanent Herd Number) - Unique identifier
5. **Registration Number** - Official registration (if applicable)
6. **Ear Tag Number** - Physical tag number
7. **Breed** - Cattle breed
8. **Sex** - Bull, Cow, Heifer, Steer, etc.

9. **Date of Birth** - For age calculation
10. **Ranch** - Select owning ranch
11. Optional information:
12. Dam (mother) and Sire (father) for lineage tracking
13. Location within ranch
14. Color and markings
15. Health status
16. Body condition score
17. Click "**Save**" to add the cattle

## Editing Cattle Information

1. Navigate to the cattle's detail page
2. Click "**Edit**" button
3. Update the information
4. Click "**Save Changes**"

## Cattle Details Page

Each cattle has a comprehensive details page showing:

- **Basic Information** - Name, breed, sex, date of birth
- **Identification** - PHN, registration number, ear tag
- **Lineage** - Dam and sire information
- **Images** - All photos associated with the cattle
- **Measurements** - Weight history, body scores
- **3D Models** - Interactive 3D visualizations
- **AI Analysis** - Body composition and recommendations
- **Breeding History** - Offspring records

## Cattle Detail Page

Figure 4: Individual cattle detail page showing comprehensive information, images, and action buttons

## Bulk Selection & Actions

In Row or Analysis view:

1. **Check boxes** next to cattle you want to work with
2. **Bulk Action Bar** appears showing selected count
3. Available bulk actions:
4. **Register Selected Cattle** - Batch registration
5. More actions coming soon

## Bulk Selection

Figure 5: Bulk selection in action - checkboxes selected and bulk action bar displayed at bottom of screen

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## Ranch Management

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### Viewing Ranch Details

1. Go to **Ranches** menu
2. Click on a ranch name to view details

Ranch details include:

- Basic information (name, producer, registration number)
- Location (address, city, state, country)
- Ranch statistics (total acres, cattle count)
- Operation type and certification details
- Associated documents

## Ranch Action Buttons

From the Ranch detail page, you can:

- **Register Action** (Yellow button) - Jump directly to cattle registration in Analysis view
- **Upload Documents** - Add ranch documents
- **Import Observations** - CSV import for pasture notes
- **Bulk Upload Images** - Upload multiple photos at once
- **Manage Pastures** - Define and manage grazing areas
- **Edit** - Update ranch information

### Ranch Detail Page

Figure 6: Kallion Farms ranch detail page showing all action buttons and ranch information including cattle count and documents

## Adding a New Ranch

1. Navigate to **Ranches**
2. Click "**Add Ranch**"
3. Enter ranch details:
4. Name and producer information
5. Contact details (email, phone)
6. Address and location
7. Total acreage
8. Primary breed
9. Operation type
10. Click "**Save**"

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# Pasture Management

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## Interactive Pasture Maps

The pasture management system uses interactive maps powered by Leaflet.js:

1. **View Pastures** - From Ranch detail page, click "**Manage Pastures**"
2. **Map Interface** - See all your pastures on an interactive map
3. **Draw New Pastures** - Use drawing tools to define boundaries
4. **Edit Boundaries** - Modify existing pasture shapes

## Pasture Management

Figure 10: Interactive pasture management interface with Leaflet.js map showing pasture boundaries and management tools

## Creating a New Pasture

1. Go to a ranch's pasture management page
2. Click "**Create New Pasture**"
3. Enter pasture information:
4. **Name** - Pasture identifier
5. **Grazing Type** - Select from:
  - Continuous
  - Rotational
  - Intensive Rotational
  - Ultra High Density
  - Mob Grazing
  - Strip Grazing

- Holistic Planned Grazing
- And more...

6. **Acreage** - Size (calculated automatically from boundaries)
7. **Draw Boundaries** on the map:
8. Click points to create polygon
9. Double-click to finish
10. Click "**Save**"

## GPS-Based Image Association

When you upload images with GPS data:

- Images are **automatically linked** to pastures
- The system uses GPS coordinates to determine location
- View pasture-specific images in the pasture gallery

## Importing/Exporting Pasture Data

- **KML Export** - Download pasture boundaries for use in other mapping tools
- **KML Import** - Import existing pasture data
- **CSV Observations** - Import field notes and observations

## Pasture Observations

Track what you see in the field:

1. Navigate to a pasture's detail page
2. View the **Observations** tab
3. Import observations via CSV with:
4. Observation type (weeds, pests, water issues, forage quality)
5. Severity level

6. GPS coordinates
7. Notes and photos
8. Track resolution status

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## Registration and Fees

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### Registering Cattle

The platform offers a streamlined cattle registration system:

#### Method 1: From Cattle List

1. Go to **Cattle** page
2. Switch to **Row View** or **Analysis View**
3. **Check boxes** next to cattle to register
4. Click "**Register Selected Cattle**"
5. Select the ranch for registration
6. Review the registration summary:
7. Number of cattle to register
8. Registration fee (\$10 per animal)
9. Total cost
10. Click "**Register Cattle**"

#### Method 2: From Ranch Page (Quick Access)

1. Go to **Ranches**
2. Open a ranch detail page
3. Click the yellow "**Register Action**" button

4. You'll jump to the Analysis view with cattle from that ranch
5. Select cattle and follow steps above

## Register Action Workflow

Figure 7: Clicking "Register Action" from ranch page navigates to filtered cattle list in Analysis view

## Registration Numbers

- Format: **REG-YYYY-NNNN** (e.g., REG-2025-0001)
- Sequential numbering by year
- Unique and permanent
- Automatically generated

## Registration Fees

- **\$10.00 per animal**
- Automatically added to your shopping cart
- Pay via secure checkout

## Registration Form

Figure 8: Cattle registration form showing selected cattle, ranch selection, and registration fee summary (\$10 per animal)

## Checking Registration Status

View registration status on:

- Cattle list pages (registration number column)
- Cattle detail pages
- Analysis view data table

# Marketplace

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## Browsing Cattle for Sale

1. Navigate to **Marketplace** menu
2. Browse available listings
3. Use filters:
4. **Product Type** - Live cattle, semen straws, embryos
5. **Breed** - Filter by specific breeds
6. **Sex** - Bull, cow, heifer, etc.
7. **Search** - Find by name or keywords

## Marketplace

Figure 9: Public marketplace showing cattle available for sale with filters and search options

## Listing Cattle for Sale

1. Go to cattle detail page
2. Click "**Edit**"
3. Enable "**Available for Sale**"
4. Set **Visibility** to "Marketplace" or "Public"
5. Set your asking price
6. Add product details and photos
7. Save changes

Your cattle will appear in the marketplace for potential buyers.

## Adding to Cart

1. Browse marketplace listings
2. Click on cattle you're interested in
3. Click "**Add to Cart**"
4. Continue shopping or proceed to checkout

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## Image and Video Management

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### Uploading Individual Images

1. Navigate to cattle detail page
2. Click "**Upload Image**"
3. Select image file (JPG, PNG, HEIC, HEIF)
4. Add description (optional)
5. Click "**Upload**"

### Bulk Image Upload

For uploading many images at once:

1. From Ranch detail page, click "**Bulk Upload Images**"
2. **Drag and drop** files or click to browse
3. Supported formats:
4. Images: JPG, JPEG, PNG, HEIC, HEIF
5. Videos: MP4, MOV, MPEG
6. File size limit: **500MB per file**
7. Images upload **one at a time** to ensure stability

## Automatic EXIF Data Extraction

The system automatically extracts metadata from your images:

- **Camera settings** - Make, model, ISO, aperture, shutter speed
- **Date & time** - When photo was taken
- **GPS coordinates** - Where photo was taken
- **Device information** - Phone or camera used

## GPS-Based Association

Images with GPS data are automatically:

- **Linked to pastures** where they were taken
- **Associated with cattle** if coordinates match known locations
- **Organized geographically** for easy browsing

## Image Gallery

View all your images:

1. Navigate to **Images** menu
2. Browse all uploaded photos
3. Filter by:
  - Ranch
  - Cattle
  - Date range
  - Pasture
4. Sort by date, cattle, or location

### Image Gallery

Figure 11: Image gallery showing all uploaded photos with filtering and sorting options

## 3D Model Generation

For cattle with multiple images:

1. Upload at least 5-10 images from different angles

2. System generates **3D point cloud**
3. View interactive 3D model on cattle detail page
4. Rotate, zoom, and analyze from any angle

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## Document Management

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### Uploading Ranch Documents

Build your ranch knowledge base:

1. From Ranch detail page, click "**Upload Documents**"
2. **Drag and drop** files or browse
3. Supported formats:
4. PDF
5. Microsoft Word (.doc, .docx)
6. Excel (.xls, .xlsx)
7. PowerPoint (.ppt, .pptx)
8. Apple iWork (Pages, Numbers, Keynote)
9. File size limit: **100MB**
10. Categorize document:
11. Breeding records
12. Health records
13. Financial documents
14. Pasture management
15. Feed records
16. Equipment documentation
17. Compliance records

18. General
19. Add title and description
20. Enable "**AI Accessible**" for future AI analysis
21. Click "**Upload**"

### Document Upload

Figure 12: Document upload interface with drag-and-drop functionality and category selection for Kallion Farms

## Viewing Documents

- All documents appear on Ranch detail page
- Download any document by clicking "**Download**" button
- Filter by category
- Sort by date or title

## AI Document Scanning

Extract cattle records from documents:

1. Upload documents (PDFs, images of records)
2. Click "**Scan for Cow Records**"
3. AI analyzes documents and extracts cattle data
4. Review extracted information
5. Import into your database

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# Measurements and Analysis

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## Recording Measurements

Track cattle growth and development:

1. Go to cattle detail page
2. Navigate to **Measurements** section
3. Click "**Add Measurement**"
4. Enter measurement data:
5. **Weight** - In lbs or kg (based on your preference)
6. **Height** - Shoulder height
7. **Body Length**
8. **Body Condition Score** - 1-9 scale
9. **Measurement Method** - Manual, scale, AI estimate
10. **Date** - When measured
11. Add notes (optional)
12. Click "**Save**"

### Measurements Page

Figure 13: Measurements tracking page showing historical weight data, body scores, and filtering options

## Weight Tracking

The system includes advanced weight tracking:

- **Growth Charts** - Visual weight progression over time
- **Milestone Tracking** - Automatic milestone detection
- **Efficiency Calculations** - Average daily gain
- **Data Validation** - Prevents backdated entries that could corrupt data

## AI-Powered Body Analysis

Using GPT-4o vision:

1. Upload clear photos of cattle from multiple angles
2. Click "**AI Analysis**"
3. Receive detailed analysis:
4. **Body Composition** - Muscle and fat distribution
5. **Conformation Assessment** - Structure and balance
6. **Bonsma Methodology** - Functional efficiency scoring
7. **Recommendations** - Feeding and management suggestions

## Body Condition Scoring

Standard 1-9 scale:

- **1-2** - Emaciated
- **3-4** - Thin
- **5-6** - Moderate (ideal for most cattle)
- **7-8** - Fleshy
- **9** - Obese

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## Voice Commands

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### Using Voice Control

The platform supports voice commands for hands-free operation:

1. Navigate to **Voice Commands** menu
2. Click the **microphone icon**
3. Speak your command clearly

4. System processes and executes

## Example Voice Commands

- "Show me all cattle at Scratch Land ranch"
- "Find cattle with registration number REG-2025-0001"
- "Add weight measurement for cattle Vegitation"
- "Show health status for all bulls"
- "Upload image for cattle number 12345"

## Voice Command Features

- **Natural Language Processing** - Speak naturally
- **Multi-Language Support** - English and Spanish
- **Fallback to Text** - Type if voice isn't working
- **Command History** - Review past commands

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## Shopping Cart and Checkout

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### Viewing Your Cart

1. Click the **Cart** icon in the top navigation
2. Review items:
3. Cattle registration fees
4. Marketplace purchases
5. See total cost

## Checkout Process

1. Review cart contents
2. Click "**Proceed to Checkout**"
3. Enter payment information via **Stripe**
4. Confirm purchase
5. Receive confirmation email

## Payment Security

- **Stripe Integration** - Industry-leading payment security
- **SSL Encrypted** - All transactions protected
- **PCI Compliant** - Meets payment card industry standards

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## Mobile App (iOS)

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### BosSires Depth Capture App

Available for iOS devices with LiDAR:

#### Features

- **ARKit Integration** - Use iPhone/iPad LiDAR scanner
- **Depth Data Capture** - High-quality 3D depth maps
- **Real-Time Sync** - Automatic upload to cloud
- **GPS Integration** - Location-tagged captures
- **Offline Mode** - Capture in the field, sync later

## Using the App

1. **Download** from App Store
2. **Login** with your account credentials
3. **Grant Permissions** - Camera, location, storage
4. **Scan Cattle:**
5. Position cattle in frame
6. Tap "**Capture**" button
7. Walk around for multiple angles
8. Data uploads automatically
9. **View Results** - 3D models appear in web dashboard

## Supported Devices

- iPhone 12 Pro and newer
- iPad Pro (2020 and newer)
- Any iOS device with LiDAR sensor

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## Tips and Best Practices

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### Photography Tips

For best AI analysis results:

1. **Good Lighting** - Natural daylight is best
2. **Clear Background** - Minimize distractions
3. **Multiple Angles** - Front, side, rear, and 3/4 views
4. **Full Body Shots** - Show entire animal

5. **Standing Position** - Cattle should be standing square
6. **Distance** - 10-15 feet away for full body
7. **High Resolution** - Use highest camera quality

## Data Entry Best Practices

1. **Consistent Naming** - Use clear, consistent cattle names
2. **Complete Records** - Fill in as much information as possible
3. **Regular Updates** - Keep measurements current
4. **Photo Documentation** - Upload images regularly
5. **Backup Important Documents** - Upload to document management

## Measurement System

The platform automatically adjusts based on your country:

- **United States** - Imperial (lbs, inches, °F)
- **Canada, Australia** - Metric (kg, cm, °C)
- **Paraguay** - Metric

You can override this in your profile settings.

## Performance Optimization

1. **Image Compression** - System automatically optimizes large images
2. **Batch Operations** - Use bulk upload for multiple files
3. **Regular Cleanup** - Archive old records periodically
4. **Browser Cache** - Clear browser cache if experiencing slowness

## Security Recommendations

1. **Strong Passwords** - Use complex, unique passwords
2. **Regular Logout** - Log out when finished on shared computers
3. **Permission Management** - Only grant access to trusted users
4. **Document Security** - Mark sensitive documents as private

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## Internationalization

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### Language Support

Switch between:

- **English**
- **Spanish** (Español)

Change language using the language selector in the top navigation.

### Country-Specific Features

The platform adapts to your location:

- **United States** - Imperial measurements, USD currency
- **Canada** - Metric measurements, CAD currency
- **Australia** - Metric measurements, AUD currency
- **Paraguay** - Metric measurements, PYG currency

### Automatic Unit Conversion

When viewing data from different regions:

- Weights convert between lbs and kg

- Heights convert between inches and cm
- The system displays in your preferred units

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## Support and Help

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### Getting Help

If you need assistance:

1. **User Manual** - This document
2. **In-App Help** - Click the help icon
3. **Email Support** - Contact your administrator
4. **Training Videos** - Coming soon

### System Requirements

- **Modern Web Browser** - Chrome, Firefox, Safari, Edge
- **Internet Connection** - Stable broadband recommended
- **Screen Resolution** - 1024x768 minimum
- **JavaScript Enabled** - Required for full functionality

### Browser Recommendations

For best experience:

- **Google Chrome** - Recommended
- **Safari** - For iOS and macOS users
- **Firefox** - Fully supported
- **Microsoft Edge** - Fully supported

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# Frequently Asked Questions

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## General Questions

### **Q: How do I reset my password?**

A: Click "Forgot Password" on the login page and follow the instructions.

### **Q: Can I manage multiple ranches?**

A: Yes! You can add and manage multiple ranch operations from one account.

### **Q: Is my data backed up?**

A: Yes, all data is backed up regularly to cloud storage.

### **Q: Can multiple users access the same ranch?**

A: Yes, ranch administrators can grant access to other users.

## Cattle Management

### **Q: What's the difference between PHN and Registration Number?**

A: PHN is a permanent herd number for tracking. Registration number is the official breed association number.

### **Q: How do I track lineage?**

A: Enter dam (mother) and sire (father) information when adding or editing cattle.

### **Q: Can I delete cattle records?**

A: Cattle are typically soft-deleted (marked inactive) to preserve historical data.

## Images and Analysis

### **Q: What image formats are supported?**

A: JPG, JPEG, PNG, HEIC, HEIF for photos. MP4, MOV, MPEG for videos.

**Q: How many images do I need for 3D modeling?**

A: Minimum 5-10 images from different angles. More is better.

**Q: What is the Bonsma methodology?**

A: A functional efficiency scoring system that evaluates cattle based on body proportions and structural soundness.

## **Registration and Fees**

**Q: How much does cattle registration cost?**

A: \$10.00 per animal for registration with unique registration numbers.

**Q: Are registration numbers permanent?**

A: Yes, once assigned, registration numbers never change.

**Q: Can I register cattle in bulk?**

A: Yes! Use the multi-select feature to register many cattle at once.

## **Technical**

**Q: Why use sequential uploads instead of batch?**

A: Sequential uploads (one file at a time) prevent timeout errors and ensure reliable processing of large files.

**Q: What happens to my GPS data?**

A: GPS coordinates from images are used to automatically link photos to pastures. Your exact location is never shared publicly.

**Q: Is the mobile app required?**

A: No, the mobile app is optional. All features are available through the web browser.

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## Glossary

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**ARKit** - Apple's augmented reality framework for 3D scanning

**Body Condition Score (BCS)** - Numerical rating of cattle fatness (1-9 scale)

**Bonsma Methodology** - Functional efficiency evaluation system

**Dam** - Mother of a cattle

**Ear Tag** - Physical identification tag on cattle's ear

**EXIF Data** - Metadata embedded in image files

**GeoJSON** - Format for encoding geographic data

**GPS** - Global Positioning System for location tracking

**KML** - Keyhole Markup Language for geographic data

**LiDAR** - Light Detection and Ranging for 3D scanning

**PHN** - Permanent Herd Number

**PLY File** - 3D point cloud file format

**Sire** - Father of a cattle

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## Version History

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**Version 1.0** - November 2025

- Initial user manual release
- Complete feature documentation
- Step-by-step guides
- FAQ section

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## Contact Information

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For technical support, feature requests, or questions about your account, please contact your system administrator.

**Platform:** CattleManagement.Online

**System:** BosSires R&D Cattle Management Platform

**Documentation Version:** 1.0

**Last Updated:** November 2025

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Thank you for using BosSires R&D Cattle Management Platform. We're committed to helping you manage your cattle operation efficiently and effectively.