

Mifugo360 Muzzle Identification Photography Guide

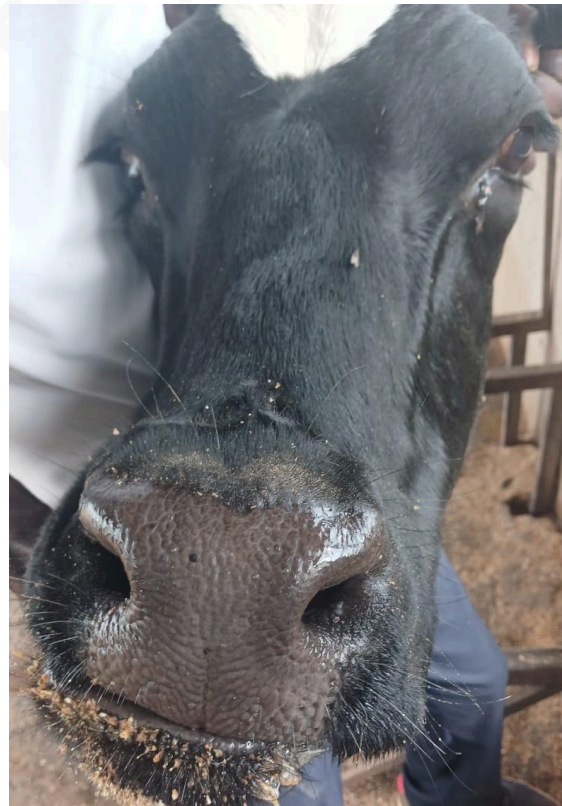
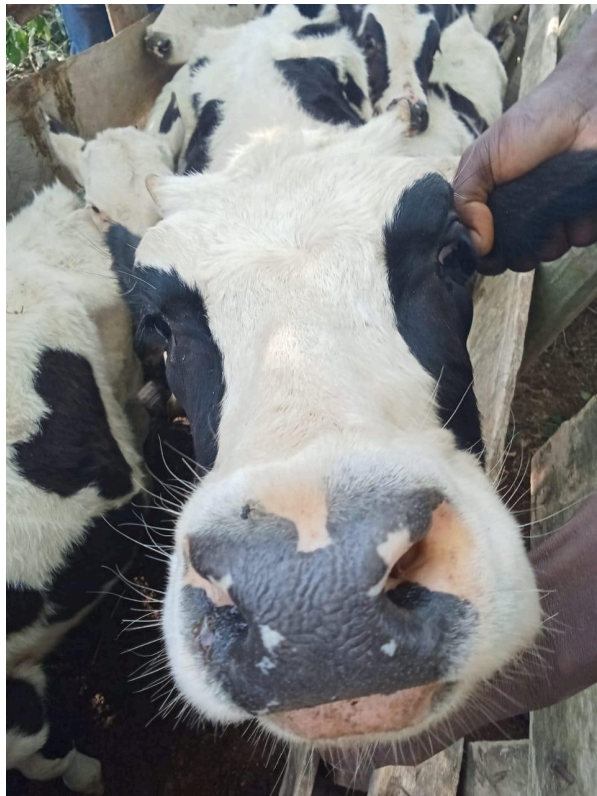
Introduction

In the Mifugo360 system, every successful identification begins with a high-quality image. The accuracy of muzzle-based identification depends heavily on how well the muzzle is captured — clear, unobstructed, properly lit, and correctly framed.

This guide serves as a practical reference for field teams, extension officers, and livestock handlers. It outlines the *ideal muzzle images* the system is trained to recognize and provides step-by-step best practices to help you take them. By following these guidelines, you'll ensure that the photos you take are not only usable but optimal for the system, improving match accuracy, speeding up identification, and supporting better livestock traceability and management.

Let's start by understanding what an **ideal muzzle image** looks like — and how you can consistently capture it.

Examples of Ideal images:





Characteristics of a high-quality, ideal image:

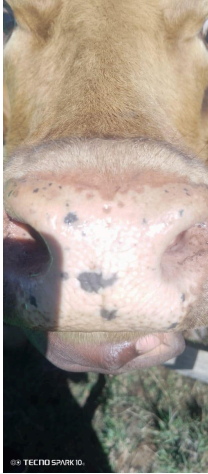
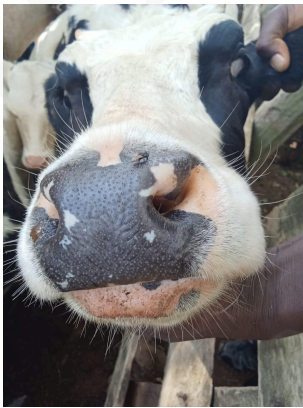
- **✓ Upright and Level**
The muzzle appears upright in the frame, not rotated sideways or upside down.
- **✓ Full Muzzle Visible**
Both nostrils and the entire surface of the muzzle are clearly shown — not cropped, blocked, or partially out of frame.
- **✓ Front-Facing Angle**
The image is taken head-on, with no extreme angles from below or above.
- **✓ Good Lighting**
Natural, even lighting with no shadows, glare, or overexposure. Every surface of the muzzle is visible.
- **✓ Sharp and Focused**
The image is crisp, not blurry. The camera lens is clean, and the animal is still at the moment of capture.

-  **No Obstructions**
No mud, ropes, hands, or objects covering the muzzle.
-  **Centered in the Frame**
The muzzle is aligned in the middle of the photo, and not pushed to one side.

Best Practices: How to Capture Effective Muzzle Images

1. Ensure Proper Lighting

- Use **natural daylight** whenever possible.
- If working in **dark or poorly lit environments**, use a **flash only when necessary** — just make sure it doesn't cause glare or reflections on the muzzle.
- Avoid shadows that cover part of the muzzle.

	Avoid direct sunlight reflection	Muzzle with glare and covered partly with a shadow ❌
		Image naturally lit ✔✔

2. Maintain Correct Distance and Focus

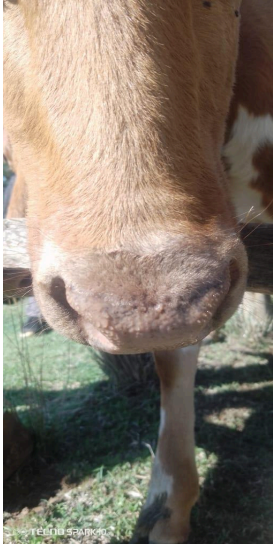
- Hold the camera about **15–30 cm** from the muzzle.
- The muzzle should **fill most of the image**, and should be fully visible: Avoid cropping out parts of the muzzle.
- **Ensure the photo is in focus and sharp.** Wipe your camera lens before use, and if the image appears blurry, take another shot

	Position yourself directly in front of the animal and hold the phone steadily	Blurred muzzle image with cropped muzzle ❌❌
		Clear with muzzle filling the image ✅✅

3. Center the Muzzle in the Frame

- Ensure the muzzle is positioned in the **center** of the image.
- Always take photos with the phone held upright (portrait, not landscape).

- Keep the muzzle upright in the frame, not sideways or upside down.
- Do avoid **extreme** angles (e.g., looking up at the nostrils from directly below, or down from very high above) – If the cow's head is down, gently raise it to get a straight view of the nostrils.

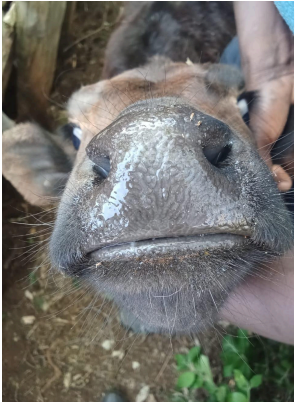
	Raise the animal's head for better capture	Nostrils looking directly down ✗✗ Full muzzle not visible ✗
		Nostrils directly level ✓✓ Full muzzle visible ✓

4. Keep the Muzzle Clean and Visible

- If the muzzle is **muddy, wet, or blocked**, gently wipe it clean.

	Wipe the Muzzle using a clean towel	Muzzle wet and dirty ❌❌

- Make sure the muzzle is **not obstructed** by ropes, hands, or equipment.

	Avoid shadows Avoid obstructing the muzzle area with ropes, hands, etc.	Muzzle obstructed with shadows ❌❌ Nostrils directed upwards ❌
		Clear image with no obstructions ✅✅

Thank you for helping maintain high identification accuracy!