

RFID – Radio Frequency Identification

The need for animal tracking and better identification has increased demand for better software within the dairy industry. Producers need an efficient and economical way to monitor cow movement from farm to farm, reduce improper drug use for milk and meat for human consumption, and assist during vet checks.



- 1 - A wand scans the tag and electronically reads the animal ID from the tag's computer chip.
- 2 - The scanned ID data is wirelessly transferred to the PocketDairy software.
- 3 - Scanned data is transferred from PocketDairy to PCDART where it is verified and transmitted to DRMS.

DRMS developed **PocketDairy** software to interface with RFID readers and accurately display the animal's history, whether Milk or Meat should be withheld, and any checks for vet day. Additionally, the PocketDairy system can be used to input management information cowside and subsequently load into **PCDART** herd management software when cradled. DRMS has also developed the **PocketMeter** program to enable DHI Technicians to utilize RFID on test day. The PCDART suite and RFID makes a winning combination for any size dairy.

RFID Tags

Two main types of RFID tags are used in the industry: **Half Duplex (HDX)** and **Full Duplex (FDX)**. Both types are referred to as **passive devices**, which basically mean they have no battery to deliver power. They depend on the RFID reader to generate an electronic magnetic field causing a small voltage in the antenna coil in the tag. Half Duplex tags communicate by sending out a signal and wait for a reply. Full Duplex tags send out and receive communication simultaneously. Popular tags that use FDX technology include:

- ◆ **Y-Tex** (~\$2/tag - 20 per package)
- ◆ **Allflex EID** (~\$2/tag - 20 per package)
- ◆ **Destron eTag** (~\$2/tag -25 per package)
- ◆ **Destron TX1400 B implant** (~\$4.50 - \$7 per implant)

RFID Readers

Several manufacturers that have developed RFID readers in the price range of \$850 - \$1350:

- ◆ **Allflex RS320** (~ \$1225) - compatible with FDX and HDX technology; has a Bluetooth wireless module with a LCD read out and a counter option.
- ◆ **AginfoLink BT3** (~ \$1350) - compatible with ISO 11785 and 11784 RFID tags and FDX and HDX technology; communicates wirelessly with the host using Bluetooth.
- ◆ **Destron DTR4** (~ \$930) - compatible with ISO 11785 and 11784 RFID tags and FDX and HDX technology; communicates wirelessly with host using Bluetooth.
- ◆ **Syscan LiveTrack** (~\$1100) - compatible with ISO 11785 and 11784 RFID tags and FDX and HDX technology. It is the lightest and longest of the RFID readers and communicates wirelessly with the host using Bluetooth.

PocketDairy

PocketDairy is part of the PCDART software program and costs \$50 for the initial startup and \$10 per month. Additional fees may be required from the local Service Affiliate. PocketDairy runs on most PPCs and smart phones. It utilizes RFID, Bluetooth technology, and interfaces with PCDART.

Devices for PocketDairy

PocketDairy can be operated on a PPC or Smart Phone with a touch screen and Mobile 6.0. Popular units include:

- ◆ **Socket SoMo PPC** (~\$470 - \$500); considered a semi-ruggedized unit
- ◆ **HP iPaq 211 PPC** (~ \$370 - \$400)
- ◆ **HP iPaq 111 PPC** (~ \$280 - \$325)

PocketDairy and PocketMeter (used by the DHIA technician on test day) are developed to enhance productivity while improving accuracy with RFID. PocketDairy can be used on more than one PPC, while PCDART7 posts the data when synced and refreshes PocketDairy. These components help make up a complete dairy management system.

Using RFID with PocketDairy and PCDART

In addition to more accurate ID, animal tracking support, and assistance with vet checks, the system adds tremendous value in significantly improving cow and herd management. Using RFID with PocketDairy and PCDART enables producers to more efficiently and effectively manage:

- ◆ **Status Input** - group of cows to turn dry - scan tags, then enter dry status for all in PocketDairy
- ◆ **Cull Cows** - scan tags of cows to sell and check status in PocketDairy and ensure that the right cows will be sold
- ◆ **Treatments** - scan tag and check status in PocketDairy to be sure the right cows are getting the right treatment
- ◆ **Meat and Milk Withholding** - when cows are leaving treatment pen, scan tag and check treatment status in PocketDairy to ensure the correct cows are returning to the milking herd
- ◆ **Find “lost” cows** - as you walk down the headlocks scanning tags, PocketDairy sounds an audible alarm sounds to indicate that a cow is in the wrong pen.
- ◆ **Today’s To Do List, Work List, Chores** - easily create these lists with PocketDairy; just tap on the list, then tap on the cow to put her on the list.

What are producers saying about using RFID with PocketDairy and PCDART?

“The practicality of using the RFID tags for management purposes took me by surprise,” admits Steve Hershey, a partner at Hershey Brothers Dairy near Lancaster, PA. “I was a little skeptical of whether I would find it useful. Within days, I realized the potential that a RFID system has to both speed data entry and improve accuracy. I have used the system for reproductive checks, health input, and general identification. I’m relieved to be ahead of the curve on a system that supports disease traceback.”

“The system has saved us a tremendous amount of time in sorting out cows for a specific action. We can wand the tags and PocketDairy will beep when we have the right cow. The accuracy also impresses me. I don’t have to decipher poor handwriting or worry that the ID is wrong. Using RFID with PocketDairy and PCDART has greatly improved inventory and cow movement among groups (which is a big deal when you have over 160 groups!). It’s 100% accurate and 100% in compliance. It’s definitely the way to go for the future!” *Cimarron Dairy*

Who can give me more information or help me get started? Contact your DHIA office. They can help you determine the tags, readers and devices you need based on your herd size.