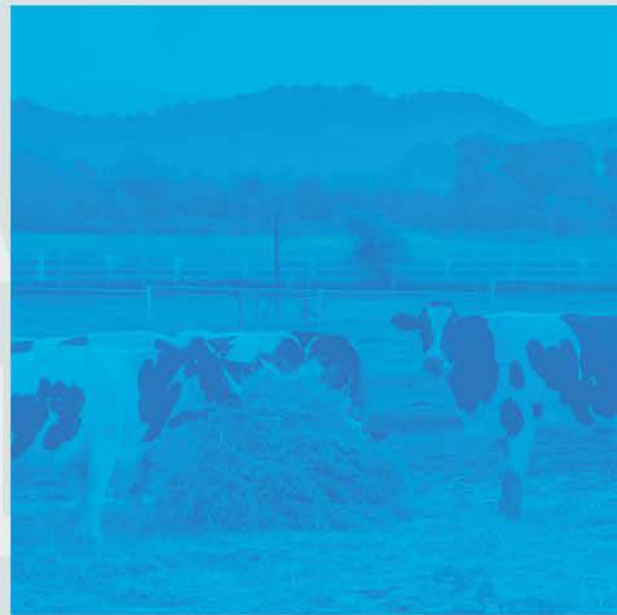


AfiFarm-MINDA Data Transfer

Afimilk Systems AfiFarm-MINDA Data Transfer

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Automating dairy farms

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1. Introduction

Afimilk and LIC have completed an API integration to allow for data fields to transfer between AfiFarm and MINDA, and vice versa. This document outlines how to set up AfiFarm to allow for the data to be transferred, along with additional important information explaining which fields will transfer and which fields will not. Please read carefully, including the FAQs to help you understand this development.

Note: API is the acronym for Application Programming Interface. It allows two or more computer programs to talk to each other, thereby allowing data to be integrated.

1.1 MINDA to AfiFarm

The following fields will transfer from MINDA to AfiFarm:

- Management number*
- LIC Animal Key*(unique animal ID assigned in LIC database)
- Birth Date*
- Birth ID
- Last calving date
- Lactation number
- Last insemination date
- Last insemination bull code and name
- Last pregnancy status and date
- Last dry off date
- Last Body Condition Score (BCS) date

* Mandatory fields required on animals so data will transfer

1.2 AfiFarm to MINDA

The following field will transfer from AfiFarm to MINDA:

- Heat detection events

2. LIC Permissions

LIC requires all users of the API to give permission for your data to be shared with Afimilk. A link to the MINDA Wearables Technology Permissions consent form will be provided on the AfiFarm PC by your support person. This electronic form must be completed before your API is activated.

3. AfiFarm to MINDA API Setup Guidelines

The following details the AfiControl processes required for AfiFarm-MINDA data transfers:

3.1 Set Up Data Transfers (Imports) from MINDA to AfiFarm

Make sure your AfiFarm is always up to date by accurately transferring animal details and events that are updated in MINDA to the cow cards in AfiFarm.

Schedule an optimal time for importing data from MINDA to AfiFarm. Up to 4 transfers per day can be organized.

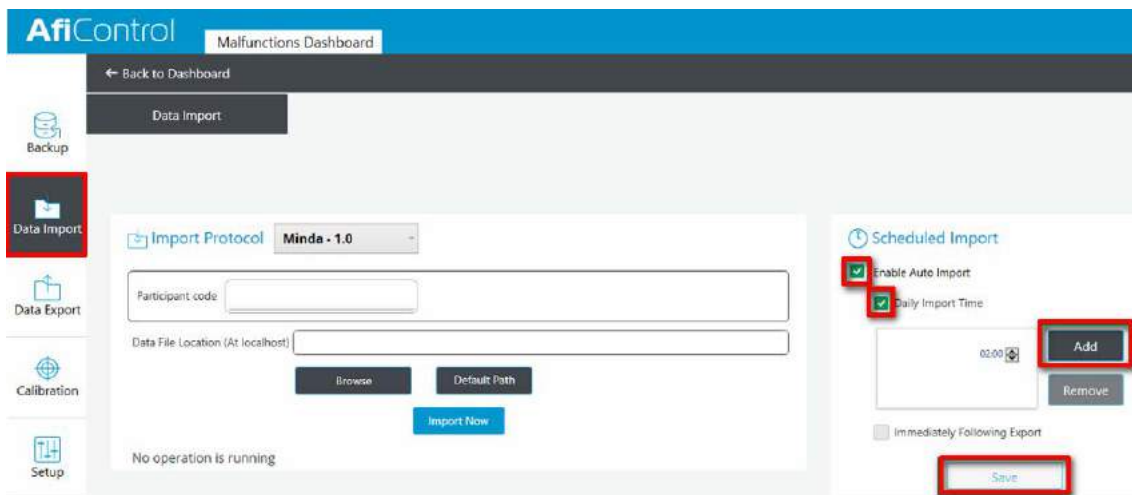
To enable data imports to AfiFarm:

1. In AfiControl dashboard, click the **Data Import** tab.
2. Select **Import** protocol dropdown, then select **Minda - 1.0**
3. Select the **Enable Auto Import** check box.
4. Select the **Daily Import Time** check box, click **Add**, then set an import time.

Note: This step can be repeated up to 4 times a day by clicking **Add**.

Note: We recommend setting up a minimum of two transfers per day, once in the morning, and once in the evening when data entry in MINDA has finished for the day.

5. Enter the **MINDA Participant code**, then click **Save**.
6. Select **Import Now**.



3.2 Herd Start Up

Once the protocol is enabled the API imports all applicable animals (animals with LIC Animal Key, management tag number, and birth date) and populates AfiFarm according to their latest events.

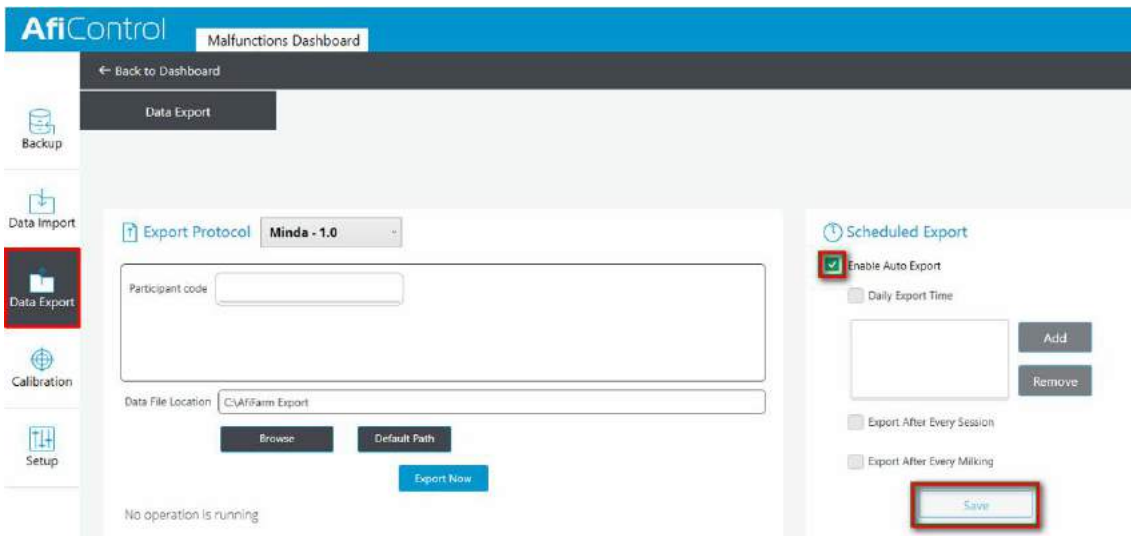
Note: All new animals are categorized into Group 999. Make sure to change/move them into their new/appropriate group.

3.3 Enable Data Transfers (Export) from AfiFarm to MINDA

Transfer heat events from AfiFarm to MINDA so they can be included in the animals' reproductive data in MINDA. AfiFarm exports detected heat events every 5 minutes.

To enable data exports from AfiFarm:

1. In AfiControl dashboard, click the **Data Export** tab.
2. Select **Export Protocol** dropdown list, then change to **Minda - 1.0**
3. Select the **Enable Auto Export** check box to enable the export option of this data.
4. Enter **Participant Code**.
5. Click **Save**.



Note: The heat event is an indication that the cow is listed in the **Animals for Insemination Report** in AfiFarm. Each cow will be sent to MINDA once per day, when she comes onto the report. If the cow isn't inseminated on that day, the cow is sent again the following day. If the cow is inseminated she is not sent again. This is the case for both Standard and Single Breeding in the Animals for Insemination report setting.

4. Additional Information:

Consider the following:

4.1 Failure Notifications

Alerts for any data failures are visible in the AfiControl technician screen. The user does not receive a notification. In future versions this will be available in the Farmer View Dashboard.

The screenshot displays the AfiControl technician interface. On the left, there is a navigation pane with sections for 'Systems View' (containing 'Larundel', 'StanAlon3', 'Processes', 'StanAlon3 Afimilk Reader', and 'Dairy Reader') and 'System Reports' (containing 'Sites', 'Device', 'Tags', 'Collars', 'Mobile Apps', 'Feed', 'Synergy', and 'Miscellaneous' with 'Data Import' highlighted). Below this is a 'User Reports' section.

The main area is divided into two tables. The top table is titled 'Data Import' and shows a list of import runs with columns: Protocol Name, Start Time, Processing Time, File Name, Imported Animals, Total Animals, Status, and Fail Reason. The data is as follows:

Protocol Name	Start Time	Processing Time	File Name	Imported Animals	Total Animals	Status	Fail Reason
Minda	Monday, 13 June 2022	09:03:26		1793	1793	Success	
Minda	Sunday, 12 June 2022	09:02:01		1744	1744	Success	
Minda	Saturday, 11 June 2022	09:02:47		1744	1744	Success	
Minda	Friday, 10 June 2022	09:02:00		1863	1863	Success	

The bottom table is titled 'Event Log' and shows a list of events with columns: Event Name, Event Date, Event Operation, Event Status, and Fail Reason. The data is as follows:

Event Name	Event Date	Event Operation	Event Status	Fail Reason
Animal ID: 1036	Registration	Tuesday, 10 August 2017	Fail	
Animal ID: 1049	Registration	Tuesday, 17 August 2017	Fail	
Animal ID: 1036	Registration	Sunday, 29 August 2017	Fail	
Animal ID: 1036	Registration	Saturday, 3 August 2018	Fail	
Animal ID: 1049	Registration	Saturday, 4 August 2018	Fail	
Animal ID: 105	Registration	Wednesday, 21 August 2019	Fail	
Animal ID: 1052	Registration	Friday, 10 August 2018	Fail	
Animal ID: 1054	Registration	Friday, 2 August 2019	Fail	
Animal ID: 1045	Registration	Monday, 13 August 2018	Fail	

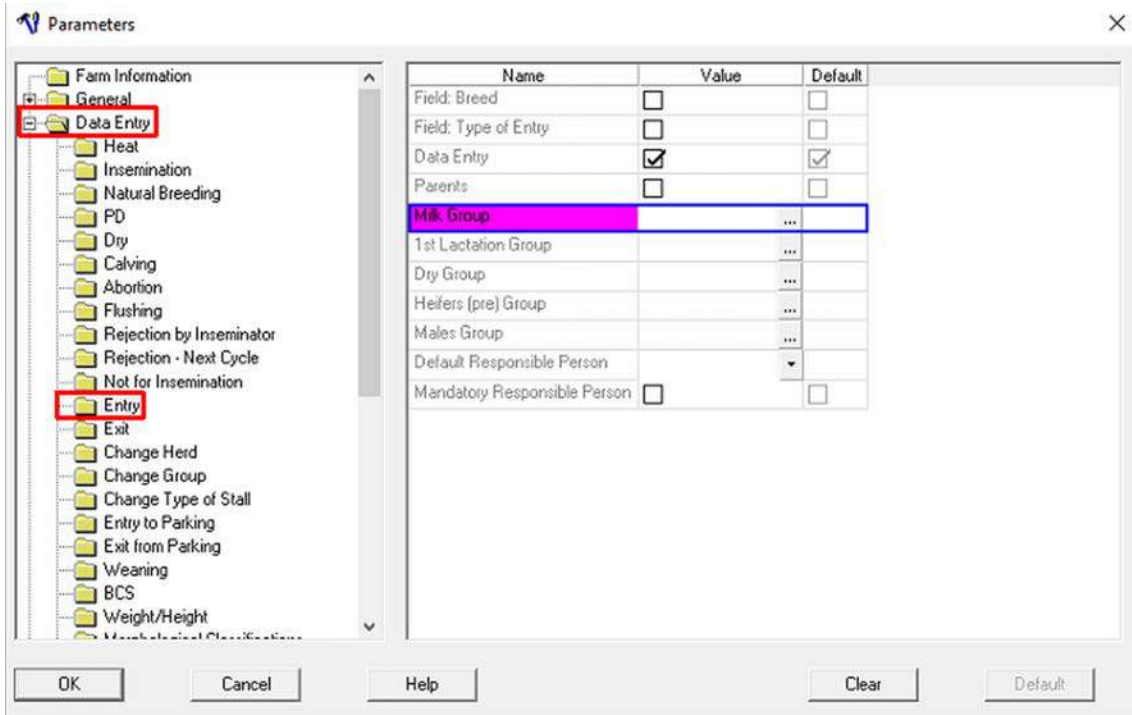
4.2 Herd Updates

Once the protocol is enabled the API runs regularly (up to four times per day, as defined in AfiControl). In each run the API updates AfiFarm with any changes since the last import.

4.3 New Animals

The API sends each animal from MINDA. If that animal doesn't exist in AfiFarm and it has a management tag number, LIC number, and birth date then AfiFarm automatically creates a new animal in AfiFarm.

These new animals are assigned to the Group that is defined in the parameters. The user will need to define the group they would like the Milk cows, 1st lactation cows, Dry cows, and Heifers to go into.



If the user does not define the animal's group, the default is Group 999.

The API doesn't support pedigree, therefore imports do not include the animal's dam or sire.

4.4 Heifer Tagging

The API sends all animals in the MINDA database to AfiFarm on each import. AfiFarm ignores animals without Management Tag Numbers, as they don't qualify for the three mandatory fields required to create a new animal in AfiFarm.

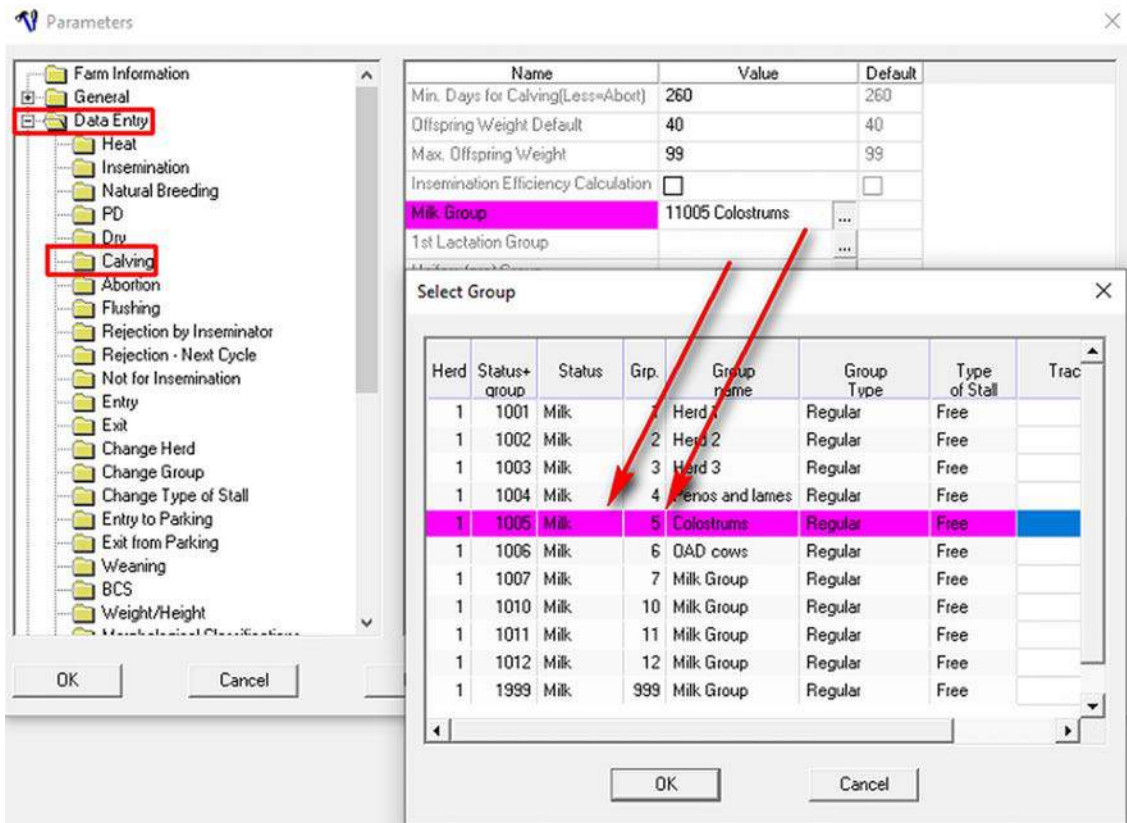
Once a heifer has a management tag, she is imported to AfiFarm as a heifer (or pregnant heifer). These animals are imported into the Heifer Group, as defined in the parameter settings outlined above.

Note: Changing an animal's management number in MINDA does not update the animal in AfiFarm.

4.5 Calving Date

When a calving event is received in AfiFarm the cow is automatically moved to the Group that is defined by the user in the parameter settings.

If the user does not define the group to which the animal will go, the default group is the existing group number the cow has in dry status; however, this time she will be assigned Milk status.



4.6 Heat Event

Heat events are sent to MINA as soon as the animal arrives on the Animals for Insemination report. Animals remain in the animals for insemination report for 24 hours. If, during this time, she isn't inseminated, or the insemination record was not transferred from MINDA to AfiFarm, AfiFarm sends another heat event to MINDA again at midnight, along with a notification about the animal.

4.7 Insemination Event

The API sends the insemination date, bull code and bull name from MINDA. AfiFarm creates an insemination with associated bull details for that date.

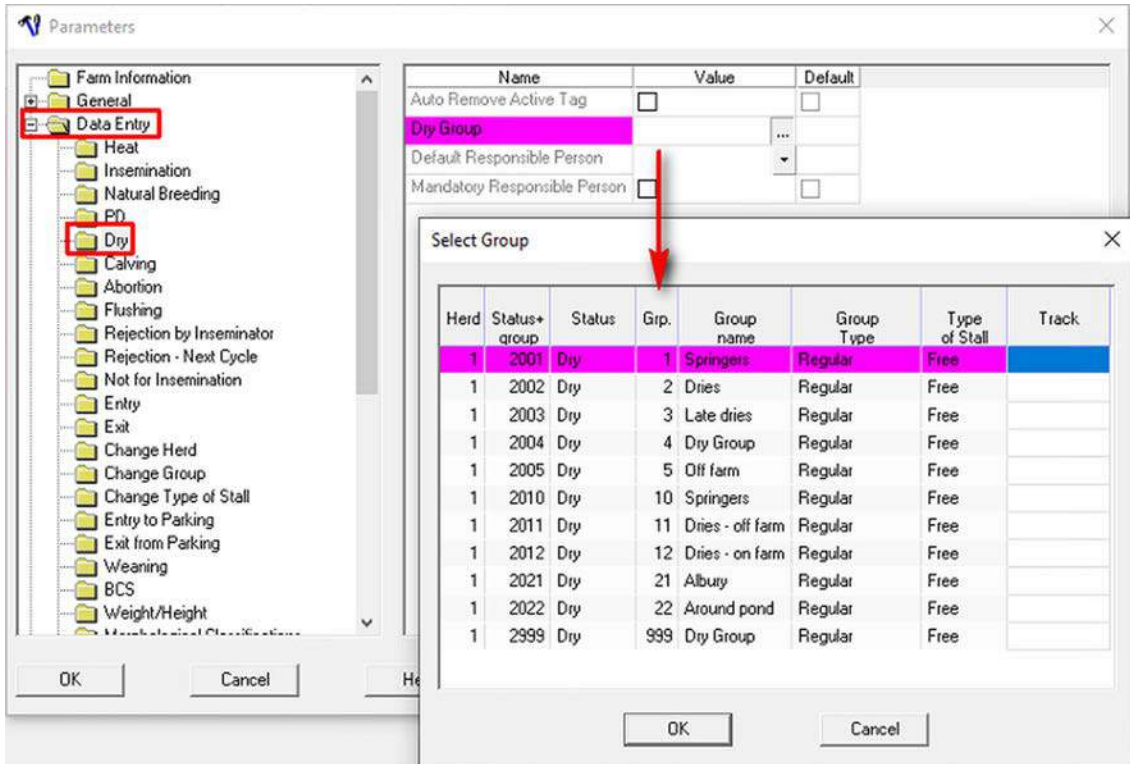
The API does not support any additional insemination information; the inseminator details are not transferred to AfiFarm.

4.8 PD Event

The API supports the transfer of positive, negative, and doubtful diagnoses (pregnant, empty, and doubtful).

4.9 Dry Off Event

When a dry event is received in AfiFarm the cow is automatically moved to a dry group defined by the user in the parameters settings. If the user does not define the animal's group, the default group is the existing group number the cow has in milk status; but, this time she is assigned dry status.



4.10 Health Events

Currently, the API doesn't support the transfer of health events to or from MINDA.

4.11 Exit Events

Currently, the API doesn't support the transfer of exit events (sold, culled, died) to or from MINDA. These need to be manually entered by the user in both databases.

4.12 Updated Management Tags

The API doesn't support changing management tags, but it does provide a failure notification. Changes to management tags must be entered manually in AfiFarm.

4.13 Drafting Automation

The API sends the heat detection notification to MINDA. Any actions required afterwards, such as sending a command from MINDA to the draft gate, must be configured in MINDA or within the draft gate software.

5. FAQs

Once the API is live, what data can I stop entering in AfiFarm?

- Calving events
- Insemination events
- Pregnancy diagnosis events
- Dry off events

Will the cows that die, or are sold, and enter in MINDA be exited from AfiFarm automatically?

No, you will need to manually enter the exit events as the API does not cater for these at this stage.

Do I need to enter historical events, such as the most recent calving?

No, the API will import this information.

Do I need to do anything when I tag my rising 2 year old heifers with their herd management tags?

No, the API checks daily to see if there are any new animals that meet the transfer requirements. These are animals with a cow management number, birth date and LIC Animal Key. Therefore, when you tag your heifers with a cow management number this triggers the animal's transfer.

Do I need to process purchased animals?

The API checks daily to see if there are any new animals that meet the transfer requirements. These are animals with a cow management number, birth date, and LIC Animal Key. Therefore, when you enter your purchased animals in MINDA the integration identifies and transfers them to AfiFarm

Will the Birth ID transfer?

Yes, it will be formatted as follows: ABCD-2023-12

What happens if I change a cow's herd management tag number in MINDA?

This will not automatically update in AfiFarm, you will need to manually change this.

If I update information in MINDA, such as date of calving, will this corrected date transfer to AfiFarm?

If the dates are within 30 days of one another then, yes, it will automatically update. If it is outside of this window then, no, you will need to manually correct in AfiFarm

Will I get a notification if data transfer fails, and what steps do I need to take so it will transfer successfully?

No. Your technician will monitor file transfer remotely and will notify you if a failure occurs. You will need to correct the data in MINDA so it can successfully transfer.

Will my heifer calves and rising one-year-old heifers transfer to AfiFarm?

No, they will not be picked up by the API until they are tagged with herd management tags. If you want them in AfiFarm you will need to follow the existing manual processes.

Will cows in heat draft automatically when the heat event is received in MINDA?

No, you will need to send commands to your draft gate.

Will suspected sick cows (cows in the Non-Specific Health report) events be transferred to MINDA?

No. Health events are not included in the API.

