

# LabCollector

*"Your Laboratory management solution"*

User's guide

## Aquarium

Version 2.0 – April 2019



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## 1- INTRODUCTION

**T**hank you for choosing one of AgileBio's solutions for the management of your lab. The **Aquarium add-on** is a web-based solution which allows to sequentially populating plates or boxes from single vial tubes or with full plates creating associated records in the same time. Just read tube/vial barcode to automatically insert in a new plate/box map.

The **Aquarium** add-on provided by AgileBio is suitable for research projects, technical platform service activities and company projects.

**Aquarium add-on** can be fully integrated with LabCollector, the LIMS we developed for life science research labs, Pharma and biotech industries.

**LabCollector** is a copyrighted product from AgileBio.

## 2- GETTING STARTED

You can get the **Aquarium add-on** by downloading from [www.labcollector.com](http://www.labcollector.com). LabCollector software has to be installed first as it contains the framework. LabCollector support documents for installation are available on our website. **Aquarium add-on** can be installed on any operating system (Windows, MacOS X and Linux).

It is a best practice to make a backup of LabCollector prior to any installation, update or upgrade.

A changelog is included in the download package. It is also available by navigating the browser URL on LabCollector at `*/aquarium/CHANGELOG.txt`.

### 1/Manual mode:

Unzip and paste **Aquarium** add-on folder in the `extra_modules` folder of your LabCollector installation.

As an example, for Windows, it would look like:

```
C:\Programs\AgileBio\LabCollector\www\lab\extra_modules\aquarium
```

Open LabCollector, the Aquarium add-on module is now activated. Click on the module, a confirmation screen will help you to proceed with the installation.

### 2/Automatic mode from LabCollector interface:

You can also use the LabCollector Menu

**Admin > Setup > Upload/Add Addons > Upload Addon ZIP > Add Addon**

Return to LabCollector - the **Aquarium add-on** module is now activated. Click on the module to finish the installation.

### 3/Cloud hosted:

If your instance of LabCollector is cloud hosted with AgileBio, AgileBio staff may perform the installation and license update for you. Contact your sales rep with any questions about the process.

The add-on will remain in a 30 day free trial mode until you save the final license **Admin > Setup > License**. To obtain a valid license, you have to copy and send the computer activation key to AgileBio. You may also use the client area of the [labcollector.com](http://labcollector.com) website to obtain or update a license.

## 3- SETUP

The Aquarium add-on is suitable to work with different species and different lab configurations. In this section, you will see the different options that can be configured to fit your needs.

### 3-1. Parameter settings

Through the menu [Settings > Parameters](#), five parameters can be setup. Each time, click on + to add values. To edit a value, click on the value name and save.

PARAMETERS

---

**Reason of removal**

+

Add :

OK

**Origins**

+

**Batch type**

+

**Sex**

+

- Female
- Male
- Indetermined

**Strains types**

- wild type
- mutant
- transgenic

Choose custom module for experiments  OK

1. **Reason of removal.** Available when you remove an animal from a tank.
2. **Origins.** Available in Entry form when you add an animal in a tank.
3. **Batch type.** Available in Entry form when you add an animal in a tank. Compatibility rules can be applied to mix different batches in a tank.

Add Batch type

Batch 3

Compatibility

This batch type can mix with this other types:

Batch 1  Batch 2

OK Cancel

4. **Sex.** Data are already available, you can modify them. Available in Entry form when you add an animal in a tank.
5. **Strains types.** Only modification is allowed here. These values are used in the Strain Management section.

PARAMETERS

The screenshot shows five panels under the 'PARAMETERS' header:

- Reason of removal:** +
  - Loaning
  - Death
  - Euthanasia
  - Experiment
- Origins:** +
  - In vitro
  - Purchase
  - Loaning
- Batch type:** +
  - Fry
  - Larvae
  - Adult
- Sex:** +
  - Female
  - Male
  - Indetermined
- Strains types:**
  - wild type
  - Mutant
  - transgenic

Choose custom module for experiments

If you want to record your experiment in a custom module (See [this KB](#)), select this module in the select list and click on OK to save.

### 3-2. Strains management

Through the menu **Settings > Strains management**, you can design the different strains you work with as well as the genetic backgrounds.

STRAINS MANAGEMENT

The screenshot shows the 'STRAINS MANAGEMENT' section with two main categories:

- Strains of type:**
  - Wild type
  - Mutant
  - Transgenic
- Genetic backgrounds:**
  - Mutations
  - Transgenes

#### 3-2-1. Genetic backgrounds

In this section, you need to define mutations and transgenes if you work with these kinds of parameters.

To create a mutation, click on **Mutations** then Add Mutation on the top right. A form opens; fill in this form and click on Add. Once created, you can modify or delete the mutation.

ADD MUTATION

---

Name

Abbreviation

Concerned gene

Genotype

Phenotype

Comments

Species

The same process needs to be followed for the transgenes.

### 3-2-2. Strains of type

You can create as many strains as you want in the following three categories

1. Wild type
2. Mutant
3. Transgenic

For each, you need to click on **Add a strain** on the top right. A form opens and you just need to fill in and click on Add.

Owner	Actions
-------	---------

ADD A STRAIN OF TYPE WILD TYPE

---

Name

Abbreviation

On site

Species

Genetic background

Owner

### 3-3. Facility management

The Aquarium add-on is based on a tree view to help you to reproduce your laboratory setup.

To help you, you can rename the default location through the menu [Settings > Facility naming](#). Just add a new name in the Change column and click on **Change**.

————— FACILITIES MANAGEMENT —————

Current name	Change
Animal Facility	<input type="text"/>
Room	<input type="text"/>
Rack	<input type="text"/>
Row	<input type="text"/>
Tank	<input type="text"/>

You can now create up to 5 different locations: facility, rooms, racks, rows, and tanks. Rack and row levels can be ignored.

#### 3-3-1. Facility

Through the menu [Settings > Animal Facility](#), click on **Add** on the top right then fill out the form. Facility can then be modified, deleted or alerts (🔔) can be added (See section 3-4).

ANIMAL FACILITY

[+ Add](#)   [Manage alerts](#)

Name	Production unit	Comments	Actions
Facility 1			
Facility 2			
Facility 3			

### 3-3-2. Room

Through the menu [Settings > Room](#), click on **Add** on the top right and then fill out the form. Room can then be modified, deleted or alerts (🔔) can be added (See section 3-4).

By default the temperature is in °C.

#### Add Room

**Animal Facility** Facility 1 ▼

**Name Room**

**Temperature**

**Lighting time**

▼

Hour

▼

Minutes

**Extinction time**

▼

Hour

▼

Minutes

ROOM

+ Add   ▲ Manage alerts

Name	Temperature	Lighting time	Extinction time	Animal Facility	Actions
Room 1.1	25° C	07:00:00	15:00:00	Facility 1	
Room 1.2	25° C	00:00:00	00:00:00	Facility 1	
Room 2.1	25° C	00:00:00	00:00:00	Facility 2	
Room 2.2	25° C	00:00:00	00:00:00	Facility 2	
Room 3.1	26° C	00:00:00	00:00:00	Facility 3	
Room 3.2	26° C	00:00:00	00:00:00	Facility 1	

### 3-3-3. Rack

The rack level is not mandatory.

Through the menu [Settings > Rack](#), click on **Add** on the top right then fill out the form.

Rack can then be modified, deleted or alerts () can be added (See section 3-4).

Add Rack

Room 3.1

- ▶ Facility 1
- ▶ Facility 2
- ▶ Facility 3
- ▶ **Room 3.1**

**Rack Name**

Rack 3.1.1

**Maximum capacity**

200

**Temperature**

26

**Comments**

First select the room in the tree on the left, and fill out the form on the right panel and click on **Add**. Temperature is in °C by default. The maximum capacity creates a blocking action in adding or transferring animals.

### 3-3-4. Row

The row level is not mandatory.

Through the menu **Settings > Row**, click on **Add** on the top right then fill out the form. Row can then be modified, deleted or alerts (🔔) can be added (See section 3-4).

The image shows a software interface for adding a row. It is titled "Add Row". On the left, there is a tree view showing a hierarchy: Facility 1, Facility 2, Facility 3, Room 3.1, and Rack 3.1.1. The "Rack 3.1.1" item is selected and highlighted with an orange border. On the right, there is a form with two sections: "Row Name" with a text input field containing "Row 3.1.1.1", and "Comments" with a large, empty text area. Below the form is a green button labeled "Add".

First select the rack in the tree on the left, and fill out the form on the right panel. Click on **Add** to validate.

### 3-3-5. Tank

The tank level is the last level in which you will manage entry, removal and other actions on animals.

Through the menu **Settings > Tank**, click on **Add** on the top right then fill out the form. Tank can then be modified, deleted or alerts (🔔) can be added (See section 3-4).



First, select the Room or the Row in the tree on the left, and fill out the form on the right panel and click on **Add**. The maximum capacity creates a blocking action in adding or transferring animals. Capacity of the different tanks inside a rack cannot exceed the maximum capacity of the rack.

Name	Parent	Capacity		Actions
Tank 1.1.1	Room Room 1.1	100		
Tank 1.2.1	Room Room 1.2	100		
Tank 1.1.2	Room Room 1.1	80		
Tank 3.2.1	Room Room 3.2	150		
Tank 2.1.1	Room Room 2.1	1000		
Tank 2.2.1	Room Room 2.2	800		
Tank 2.2.2	Room Room 2.2	800		
Tank 3.1.1.1.1	Row Row 3.1.1.1	2000		
Tank 3.1.1.1.2	Row Row 3.1.1.1	1000		

Barcodes for tanks can be printed from this page.

### 3-4. Alerts

Alerts can be created on each location.

Through the menu **Settings > Animal facility, Room, Rack, Row or Tank**, you can create alerts. Then you need to assign these alerts to the location.

The example below is based on Animal Facility.

On the top right, click on **Manage alerts** then **Add alert**.

— ANIMAL FACILITY —

Comments	Actions
	  

A form opens. You need to give a name to the alert, choose the option of repetition, comments if needed and select the option of display.

— ADD ALERT ANIMAL FACILITY —

Alert name

Repetitions

Repeat every  days starting from

Repeat every

Monday  Friday  
 Tuesday  Saturday  
 Wednesday  Sunday  
 Thursday

Repeat  times per

Comments

Display on homepage

Once the alert is created, you need to assign the alert to the facility using the  icon on the facility page. Then, you check the alerts you want for each location.

- [Cleaning](#) Tous les 2 jours
- [Lamp cleaning](#) 1 fois par mois
- [Food](#) 1 fois par jour

OK - Back

To declare the action notified by the alert (e.g. cleaning, feeding...), just go through **Feedings > Alerts**, then click on the alert you want to notify.

ALERTS

Animal Facility	Room	Rack	Row	Tank
<ul style="list-style-type: none"> <li>• <a href="#">Cleaning</a> Tous les 2 jours</li> <li>• <a href="#">Lamp cleaning</a> 1 fois par mois</li> <li>• <a href="#">Food</a> 1 fois par jour</li> </ul>	No alert	No alert	No alert	<ul style="list-style-type: none"> <li>• <a href="#">Feeding</a> 1 fois par jour</li> </ul>

You will then be able to validate each item and leave a comment.  
The list of all the performed actions is available under **Report for this alert**.

RAPPORT FEEDING - TANK

Back Alert

1 fois par jour

**Tank 1.1.1**

22/05/2019 Done on 22/05/2019 12:46 : OK

Tank 1.2.1

22/05/2019 Done on 22/05/2019 12:46 : OK

Tank 1.1.2

Tank 3.2.1

Tank 2.1.1

Tank 2.2.1

Tank 2.2.2

## 4- FEEDINGS

With the **Aquarium add-on**, feedings can also be followed using two possibilities.

### 4-1. Alive food production

The goal here is to schedule growth for alive food production.

So first, you need to create the action of growth clicking on the button **Growth** on the top right of the page [Feedings > Alive food production](#). Fill the form choosing the type of food and the repetition you need. You can also create a link with one item in the Reagent & Supplies module of LabCollector.

GROWTH - LIVE FOOD PRODUCTION

Today	<input type="text" value="21-05-2019 11:17"/>
Food	<input type="text" value="---"/> <small>If not in the list, enter new:</small> <input type="text" value="Paramecium"/>
Quantity	<input type="text" value="10 L"/>
Note	<input type="text"/>
Link to Reagents & supply	<input type="text" value="--"/>

Repetition

No

One time

Programmed

Repeat every  Days

All the production will be filtered by date (Today/Tomorrow). On the Today production, you will be able to declare this production using the **Do** button, and then create the next production.

## LIVE FOOD PRODUCTION

Today

Growth

View archives

User	Prev Date	Food	Quantity	Note	Repetition	Linked To	Action
Anne-Laure Sauvadet	21/05/2019	Brine Shrimp	2 L		Tous les 1 jour(s)	-	Do

Tomorrow

No results for 23/05/2019

All the productions will be listed under **View archives**.

## 4-2. Feedings

In this section, you can record the feedings in each tank.

First, you have to define the food type. Through the menu [Feedings > Feedings](#), click on **Add a food type** on the top right then fill in the form. You can just give a name and a comment to the food type or select item in Reagent & Supplies module of LabCollector.

## ADD A FOOD TYPE

Name

Or select existing item

Comments :  
(Volume, comments, etc...)

Once all the food types are created, you can record all the feeding actions for each tank through the menu [Feedings > Feedings](#), using **Add a record**.

Fill in the form choosing the right tank, the hour, comments if you want and one or multiple the food types.

**Add a record (Feeding)**

Tank

Hour

Comments  
*(Volume, comments, etc...)*

adults and 1 tsp. to feed tanks of 20 or more adults. Babies are fed according to the directions posted on each tank. Again, one has to do research ahead of time to see what are the needs of the specific zebrafish that are growing in each tank to determine the food amount

**Food type**

Food 1

dried bloodworms

O.S.I. Spirulina flake

Tetramin Flake

All will be listed on the Feeding page.

FEEDING

History of 10 last entries [Manage food types](#) [Add a record](#)

Tank / Date	Comments	Food	User
Tank 3.1.1.1.2 (Aupondhu) @ 14:00		- dried bloodworms - O.S.I. Spirulina flake - Tetramin Flake	Anne-Laure Sauvadet
Tank 3.1.1.1.1 (Aupondhu) @ 14:00	1. Mix 1/3 of Tetramin Flake®, 1/3 of OSI Flake® and 1/3 of Freeze-dried bloodworms together into a container. 2. Use 1/2 teaspoon to feed tanks of 10 or more adults and 1 tsp. to feed tanks of 20 or more adults. Babies are fed according to the directions posted on each tank. Again, one has to do research ahead of time to see what are the needs of the specific zebrafish that are growing in each tank to determine the food amount	- dried bloodworms - O.S.I. Spirulina flake - Tetramin Flake	Anne-Laure Sauvadet

If you created alerts for feeding, you can then follow the procedure in the [Alerts](#) section.

## 5- BATCH MANAGEMENT

Once you set up the **Aquarium** add-on, you can then track all your flows on animals. Through **Batch management** menu, you have access to a search bar by default where you can filter by batch type, strain or sex. You can also search for specific text.

### BATCH MANAGEMENT

Search

Fry -- Strain -- -- Sex --

- Facility 1 > Room 1.1 > Tank 1.1.1 10 Fry 1 / Bar (*sauvage*) / Project1  
 - Facility 1 > Room 1.1 > Tank 1.1.2 5 Fry 1 / Bar (*sauvage*) / Project1  
 - Facility 1 > Room 1.1 > Tank 1.1.2 5 Fry 2 / Bar (*sauvage*) / Project1

### BATCH MANAGEMENT

Search

-- Batch type -- -- Strain -- -- Sex -- Ba123789

- Facility 1 > Room 1.1 > Tank 1.1.2 5 Fry 2 / Bar (*sauvage*) / Project1

Click on the blue link to be directly transferred to the right tank.

Otherwise, you can just navigate in the tree on the right.

### 5-1. Entry and removal

The first action to perform is to create a batch entry. Click on Entry on the tank page and fill out the form. On this page, you can see capacity and availability based on the maximum capacity you set up creating the tank and rack. You also have access to the tank barcode and URL.

BATCH MANAGEMENT

Choose a batch □ Facility 1 > Room 1.1 > Tank 1.1.1

- ▼ Facility 1
  - ▼ Room 1.1
    - Tank 1.1.1
    - Tank 1.1.2
  - ▶ Room 1.2
  - ▶ Room 3.2
- ▶ Facility 2
- ▶ Facility 3

Capacity 100  
 Availability 100

Ref:1

No batch

Entry
View the report

Search

-- Batch type --
-- Strain --
-- Sex --

The form contains default - Sex, Type, Strain and Origin - that are connected to the options you set up (see section 3-1). The field Project is linked to the project code in LabCollector.

**Entry To Facility 1 > Room 1.1 > Tank 1.1.1**

Date

Barcode

Animal quantity

Sex  ▼

Type  ▼

Strain  ▼

Origin  ▼

Birth date

Project  ▼

Contract nbr

Client name

Contract (document)

Image set (document)

Once you have at least one batch in a tank, you can access other actions.

BATCH MANAGEMENT

Choose a batch Facility 1 > Room 1.1 > Tank 1.1.2

Choose a batch

- ▼ Facility 1
  - ▼ Room 1.1
    - Tank 1.1.1
    - **Tank 1.1.2**
  - ▶ Room 1.2
  - ▶ Room 3.2
- ▶ Facility 2
- ▶ Facility 3

Capacity 80					Ref 3
Availability 70					[Barcode]
[Magnifying Glass]	5 Females Fry	No Birth date	Wild type strain Bar (ba)	Project: Project1 Barcode: Bar123456	[Barcode] [QR]
[Magnifying Glass]	5 Males Fry	Birth date 2019-02-21	Wild type strain Bar (ba)	Project: Project1 Barcode: Bar123789	[Barcode] [QR]

[Entry]
[Removal]
[Transfer]
[Experiment]
[View the report]

Batches can be removed using the **Removal** button. The form asks for the number of entities you want to remove and the reason for removal (see section 3-1).

Each action is reported (for more details, see section 5-4).

## 5-2. Transfer

The transfer of an entity can also be performed. To do it, click on **Transfer** button and follow the steps:

1. Indicate the number of the entity to transfer
2. Indicate the batch type if you have multiple batch types in your tank. You will have one line per sex and/or strain.
3. On the right, select in the tree the new tank where you want to transfer the batch to.
4. Click on Transfer.

Transferred from Facility 1 > Room 1.1 > Tank 1.1.1

5 Fry Female - Wild type strain (Bar)

**Comments**

To

➔

Tank 1.1.1

- ▼ Facility 1
  - ▼ Room 1.1
    - Tank 1.1.1
    - **Tank 1.1.2**
  - ▶ Room 1.2
  - ▶ Room 3.2
- ▶ Facility 2
- ▶ Facility 3

Transfer

### 5-3. Experiment

If you select a custom module in the parameters (see section 3-1), by clicking on the **Experiment** button, you can define the details of your experiment relative to this tank.

Custom modules can be designed as needed (see [this KB](#)) and records can then be linked to the **Electronic Lab Notebook** add-on.

### 5-4. Reporting

Reports are accessible from the menu **Reports** or when you are on a tank using the **View the report** button.

Reports can be executed based on:

1. Entries

#### ENTRIES MONTHLY REPORT

 Print 2019

May

2019-05-21	20 Female(s) wild type ( <i>Bar - ba</i> ) Origin In vitro => <i>Facility 1 &gt; Room 1.1 &gt; Tank 1.1.1</i> Project: Project1 / Barcode: Ba123456 Fry Birth date : 2019-05-21
2019-05-21	5 Male(s) wild type ( <i>Bar - ba</i> ) Origin Purchase => <i>Facility 1 &gt; Room 1.1 &gt; Tank 1.1.2</i> Project: Project1 / Barcode: Ba123789 Fry Birth date : 2019-02-21
2019-05-21	50 Indetermined(s) wild type ( <i>Daurade - Da</i> ) Origin In vitro => <i>Facility 1 &gt; Room 1.2 &gt; Tank 1.2.1</i> Project: Hybridome / Barcode: Da123 Adult Birth date : 2018-12-21

2. Removals
3. Transfers
4. Experiments
5. Projects

PROJECTS REPORT


Project1
2019
GO

Entries monthly report: Project1 - 2019

May

2019-05-21	20 Female(s) wild type (Bar - ba) Origin In vitro => Facility 1 > Room 1.1 > Tank 1.1.1 Project: Project1 / Barcode: Ba123456 Fly Birth date: 2019-05-21
2019-05-21	5 Male(s) wild type (Bar - ba) Origin Purchase => Facility 1 > Room 1.1 > Tank 1.1.2 Project: Project1 / Barcode: Ba123789 Fly Birth date: 2019-02-21

Removals monthly report: Project1 - 2019

Transfers monthly report: Project1 - 2019

May

2019-05-21	5 Female(s) wild type (Bar - ba) from: Facility 1 > Room 1.1 > Tank 1.1.1 to: Facility 1 > Room 1.1 > Tank 1.1.1 Fly Project: Project1 / Barcode: Ba123456
2019-05-21	5 Female(s) wild type (Bar - ba) from: Facility 1 > Room 1.1 > Tank 1.1.1 to: Facility 1 > Room 1.1 > Tank 1.1.2 Fly Project: Project1 / Barcode: Ba123456

6. Inventory (global, by facility or by strain)

INVENTORY

Global
  by facility
  by strain

Wild type strain - (70 animals)

20 Bar (ba)  
50 Daurade (Da)  
0 Zebra (Ze)

Mutant strain - (0 animals)

0 Zebra Coop (Zc)

Transgenic strain - (0 animals)

7. Tank

When you are in the batch management tool, in a tank, you can navigate between the different reports.

REPORT BY TANK

Choose one Tank

Facility 1 > Room 1.1 > Tank 1.1.2

- ▼ Facility 1
  - ▼ Room 1.1
    - Tank 1.1.1
    - **Tank 1.1.2**
    - ▶ Room 1.2
    - ▶ Room 3.2
  - ▶ Facility 2
  - ▶ Facility 3

[Entries](#)  
 [Removals](#)  
 [Transfers OUT](#)  
 [Transfers IN](#)  
 [Experiments](#)

2019-05-21	5 Female(s) wild type ( <i>Bar - ba</i> ) <u>Transferred from</u> : Facility 1 > Room 1.1 > Tank 1.1.1 Fry *Transfer for spawn*
------------	--

Under the menu [Reports](#) you can print the report and have a filter by month and year.

## 6- UPGRADING AND UPDATING

To update or upgrade the **Aquarium Add-on** module, just download it from our website ([www.labcollector.com](http://www.labcollector.com)). Then, unzip the folder and paste files in the following folder:

e.g. on a Windows setup:

```
Programs\AgileBio\LabCollector\www\lab\extra_modules\aquarium
```

As a general suggestion, we always recommend making a backup prior to performing an upgrade or update.

If your instance of LabCollector is cloud hosted with AgileBio, contact a sales or support representative to perform the update.



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