SUSTAINABLE AG APPLICATION

User Guide

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MICHIGAN STATE UNIVERSITY
College of Agriculture and Natural Resources

Revision History

Version	Change Date
Initial Draft	12/30/2022

To report errors or changes to this document please contact us at sustainableag@anr.msu.edu

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Introduction

The main purpose of the combined suite of web and mobile apps is to:

1. Allow farm managers to compare relative risk and efficacy for application of pesticides based upon their provided usage parameters
2. Allow managers to plan and schedule sprays for multiple fields and farms
3. Allow managers to assign tasks to workers and track completion of those tasks using the mobile app
4. Provide records for sprays, including weather and GPS tracking
5. Allow documentation and identification of pests

Organization of this Manual

This manual begins with a quick Getting Started guide, to help you begin managing your farm. Then it continues with further in-depth topics and frequently asked questions.

Contact Information

For any other questions of feedback, please contact the Sustainable Ag team at sustainableag@anr.msu.edu

Getting Started

To be able to use the Sustainable Ag Application each user must have their own account and be associated with a farm. Only users associated with a farm can see data associated with that farm.

Within the application there are two types of user accounts: manager and user. Manager accounts can create new farms. These accounts must be approved by the system administrators. User accounts can not create new farms and must be associated with a farm to be able to access data associated with that farm. Their level of access depends on the role associated with the farm.

Table 1 lists the farm roles and the operations which can be performed on the associated farm.
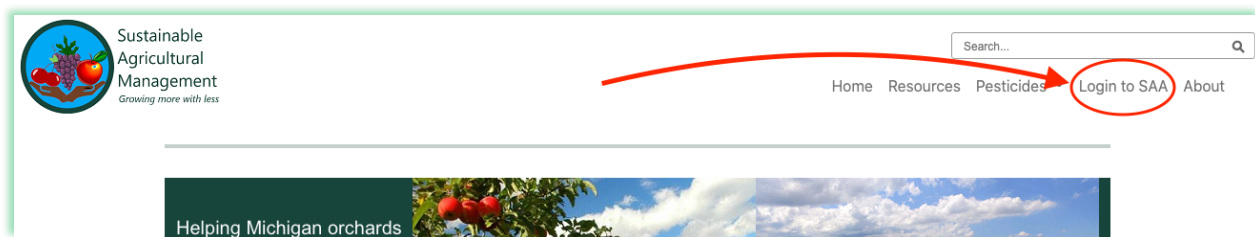
Table 1 Farm Roles and Allowed Operations

Farm Role	Allowed Operations
Manager	create fields, create tasks, assign tasks to workers
Worker	View open tasks and tasks assigned to them, start a task, upload pest images
Researcher	View tasks, create spray history report

Accessing the Sustainable Ag Application

The application can be found on our website: http://sustainableag.msu.edu/

You can login to the Sustainable Ag Application by clicking "Login to SAA" in the top bar.

Signing up

To access the features of the program, you must sign up for an account providing a username and/or email address. Providing an email address is recommended as it will allow you to receive notifications and other reminders built into the program. All personal information submitted will not be shared with other entities.
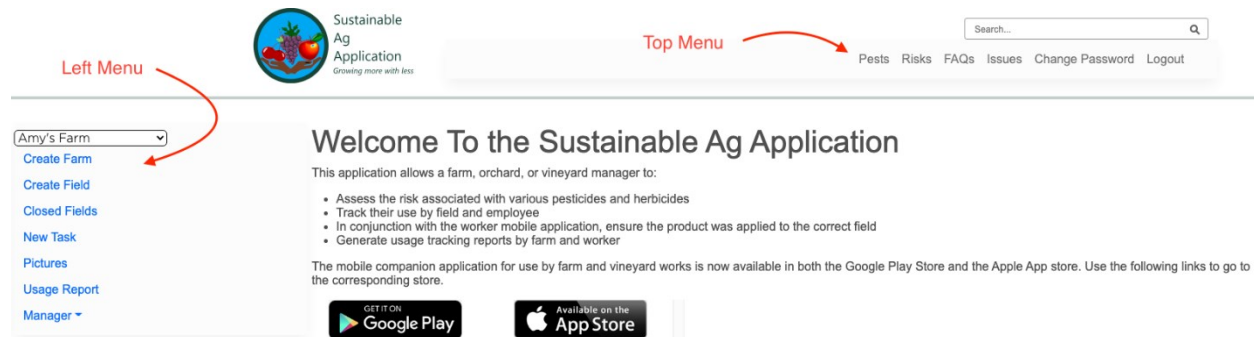
Additionally, you must select a role for your account: Manager or User

- The Manager role is for farm or spray managers who would like to be able to plan and schedule tasks, as well as view reports.
- The User role is for those who will not be managing farms, but performing tasks, reporting pests, or reviewing data.

After submitting your sign-up form, managers must wait for approval from an Administrator. For non-managers, please contact your farm manager to inform them that you have created your account. They will then add you to the farm to allow you to access tasks. If you provided an email address, you will also be sent an email asking to confirm your email address in order to use the relevant features of the program.
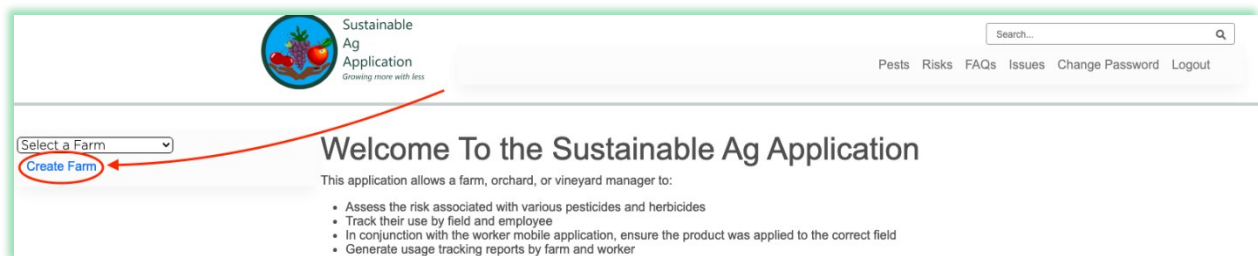
Navigation Menus

The top menu contains only items all users can access. There is also a left menu that adapts to the user. This includes a dropdown selecting the farm the user is assigned to. This left menu adapts to the farm selected as well as the user's permissions associated with that farm. This gives one-click access to the items you commonly need.

The first time a manager accesses the application and has not created a farm, they will only see the "Create Farm" item. After creating a farm, if a field hasn't been created, you will then see the "Create Field" item. If you haven't created any tasks, you will see the "New Task" item. Once a task has been created, you will see an item for "Tasks".
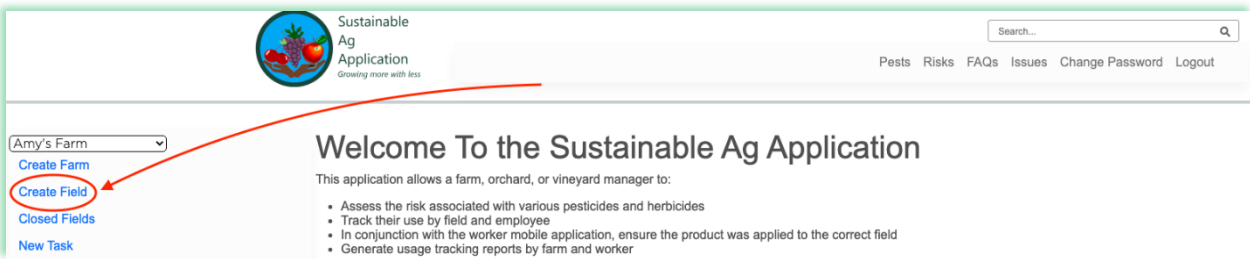
Creating your farm and fields

Before you can start scheduling tasks, you first need to create a farm by clicking "Create Farm" in the left menu bar.

Here, you are asked for location information in order to help you when you want to line fields for your farm.

Once your farm has been created, you must now line a field on your farm by selecting your farm from the dropdown and clicking "Create Field" in the left menu bar.

1. Give this field a name.
2. Click on the polygon tool ⬚ in the top right of the map to begin lining a field.
3. Click on the map to set points for the outer border of this field. Be sure to finish the border by ending with a click on the first point that you placed. If you've made a mistake in placing a point, you may click the polygon tool again to start over, delete the entire polygon with the trash can tool.
4. Click Submit Geotagging to save this field and its coordinates to your selected farm.

This process can be repeated to add additional fields and/or create separate farms.

Making a Spray Plan

Now you can begin spray planning by creating a new task by selecting the appropriate farm from the dropdown and clicking "New Task" in the left menu bar.

A single task can span multiple fields by pressing COMMAND or CTRL and clicking the relevant fields from the list.

You can generate a list of appropriate products to spray, based upon your selected pest and other parameters, by clicking the "Add" button under products to spray.

You may then select multiple products for this task from the right-side pane by clicking the "Add" button next to the products you wish to use.

Product Risks

	Product	Pest	Active Ingredients	Eff	Growth Stage	Risk	Risk Class
Add	Scala brand SC Fungicide	Botrytis Rot	Pyrimethanil	+++	N/A	0.000021	A - Acceptable Risk Cab: Enclosed Cab, App:Airblast
Add	Endura	Botrytis Rot	Boscalid	++/+++	N/A	0.0520	A - Acceptable Risk Cab: Enclosed Cab, App:Airblast

When you are satisfied with the plan for this task, finish by clicking "Create" at the bottom.

Tracking a Task

When it is time to perform a scheduled task, you may track… [USE MOBILE APP]

Tasks

Editing Tasks

You can edit a scheduled task by clicking on it in the task calendar for the farm. At the bottom of the Task Information pane, clicking "Edit Task" will take you to Task Creation where you can edit the details. When you are satisfied with your changes, click "Update Task" to save the edited task.

Spray Records

To export or print records of spray tasks performed, select the relevant from drop the dropdown and click "Usage Report" on the left menu bar. Select the relevant dates--or leave them blank to obtain a full report of the farm's history. You may then click "Generate Report" to save the spreadsheet to your default downloads folder.

Evaluating Risk Ranking and Efficacy

Risk Ranking

The risk of spraying a given product is calculated for consumer's and worker's health based upon several factors, including your intended PPE, spraying equipment, and the size of the field you are spraying. Risk is ranked, in increasing risk, from Class A to Class E:

Class	Risk	Recommended Action
A	Acceptable Risk	None advised
B	Acceptable Low Risk	None advised
C	Acceptable Moderate Risk	None advised
D	Approaching Concerning Level of Risk	Consider changing to a lower risk product, choosing a lower effective concentration, or minimizing frequency of product usage.
E	Likely to Exceed Acceptable Risk	Consider changing to a lower risk product, choosing a lower effective concentration of pesticide, or minimize your usage of this product.

The ranking is provided as a tool to empower users to select lower ranking chemicals when appropriate. Only chemicals that are deemed to be "safe" by the relevant regulatory agencies are included in the ranking.

Efficacy

The rating of pest-specific efficacy is shown in "+" signs. More "+" signs denote higher efficacy against that pest. This data is transformed from the letter rating in the Michigan Fruit Management Guide (E154), published by Michigan State University Extension Services.

FAQs

I've forgotten my password

Workers should contact their manager to request a password change. Managers should contact the Sustainable Ag team for help with their own passwords.

Where can I report an issue with the application?

Use the "Issues" item in the top menu to report any problems, feedback, or suggestions for new features. Alternatively, you may email the team at [sustainableag@anr.msu.edu.](mailto:sustainableag@anr.msu.edu)