

COMPARISON OF AGRO-CHEMICAL
INFORMATION SERVICES TO BE USED BY CAL
POLY SAN LUIS OBISPO COLLEGE OF
AGRICULTURE

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ABSTRACT

The goal of this project was to identify, study, compare, and choose one of the different types of agro-chemical services available to the agricultural industry, specifically for grower, applicator, and advisor purposes. This comparison focused on the specific needs of Cal Poly San Luis Obispo's College of Agriculture. It was determined that Agrian best fit the needs of the College of Agriculture.

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INTRODUCTION

Background

A new method of preparing, documenting, and sending various types of Chemical and Fertilizer recommendations will be adapted by the College of Agriculture at Cal Poly San Luis Obispo. The College of Agriculture is planning to eliminate the old process of writing chemical recommendations by hand and replacing it with software services that contain the necessary information and formatting for this task. This service will also send important documents to various persons involved with each pesticide application such as growers, applicators, consultants, and government agencies.

Objective

The first phase of this project will be to create a complete and detailed comparison of the top two web-based agro-chemical service companies in the agricultural industry (Agrian[®] & CDMS[®]). While each company performs the same main function, each company provides perks, functions, and services different from its competitors. The second phase of this project will be to develop a detailed and cookbook type classroom lecture that can be easily read and understood by any instructor within the college of Agriculture. Within the classroom lecture will be detailed steps regarding the basic use of the given agro-chemical software.

LITERATURE REVIEW

Pesticide Use Reporting Requirements

For an agricultural property owner, all pesticides that are applied to a crop, commodity or site must be reported. These pesticide use reports all must be sent or delivered to the commissioner of the county that the pest control will be applied in. These reports are always due by the tenth day of the following month. For a Pest Control Business, pesticide use reports must be submitted for applications that have been done by them. Pest Control Business Reports must be handed in to the commissioner of the county within 7 days of when the pest control was applied. Pest Control Businesses must also send in a copy of this report to the operator of the property where the pest control was applied within 30 days of the application. (The Safe and Effective Use of Pesticides, 2000)

Pesticide Use Reporting (PUR) in California

In California, it is a requirement to fully report all agricultural pesticide uses in order to create more complete and practical records of data. This is done to ensure food safety and more accurate traceability when a problem occurs. Under this program, the use of pesticides must be reported by the applicator on a monthly basis to the county agriculture commissioner. The Pesticide Use Report is then sent to The Department of Pesticide Regulation. The Department of Pesticide Regulation then records and analyzes the information so that a detailed data summary can be created for each chemical and commodity. (DPR, 2010)

California Department of Pesticide Regulation (DPR)

“DPR protects public health and the environment with the nation’s most rigorous and comprehensive program to evaluate and control pesticide use in California.” The California Department of Pesticide Regulation is considered to be the premier state agency for pesticide regulation in the United States. The task of the Department of Pesticide Regulation is to ensure that pesticides are being used safely and efficiently. DPR regulates statewide licensing of pesticide handlers and sales, evaluates and assesses the health risks of pesticides, determines practices to ensure a safe pesticide working place, takes residue samples of fresh fruit and vegetables (imported and native), and supports the development of pest management practices designed to reduce the amount of pesticides being used in the environment. (DPR, 2011)

Pesticide Product Label System (PPLS)

The Pesticide Product Label System is a labeling system that has been put together by the United States Environmental Protection Agency to record and index pesticide labels which have been approved by the Office of Pesticide Programs. Labels must meet strict guidelines that explain the chemistry, mode of action, determine the uses, rates and safe practices involved with each specific pesticide and many other details necessary to using a specific pesticide. The collection contains the initially approved label for pesticide products, subsequent versions of labels which have been changed via amendment or notification, and the associated correspondence about the terms of registration, specifying any changes which the registrant was required to make in the final printed label. (US EPA, 2011)

AgriData Tracking Software

AgriData tracking software is a relatively new tool that is now widely used throughout the Agriculture Industry within the United States. This software provides comprehensive data and information regarding the history and traceability of a specific commodity to every facet of the Agricultural Commodity Supply Chain. The practical applications of these software's are commonly used by growers, crop advisors, pesticide applicators, and even commodity handlers. The main two AgriData Tracking Software's available to the public are Agrian[®] and Crop Data Management Systems[®] (CDMS).

The tracking systems contain the following modules:

- **Grower Services** – AgriData Tracking Software's are practical and valuable tools at the grower level because they can provide quicker portals of communication via internet between grower and crop advisor. This communication is important because now growers can access grower recommendations solely through the use of the internet. These software's can also provide the grower with GIS/GPS mapping tools, access MSDS forms and pesticide labels for specific pesticides, and can automatically import grower's site permits from the county.
- **Advisor Services** – The Advisor services are much like the grower services but with the extended ability to create and send pesticide recommendations quick and effectively to the necessary parties.
- **Applicator Services** – These services can be advantageous to the applicators for mostly the same reasons as the grower and advisor. These services can allow for the applicator to clearly see important aspects of GIS as well so there is no confusion between mapping points and mapping spray notes
- **Handler Services** – The handler Services are an important aspect of Agrian[®] because it allows for Handlers to see records and track where

commodities or crops might be coming from. This product allows for field by field data to be observed at any given time. (Agrian[®], 2011) (CDMS, 2011)

PROCEDURES

This Project will be comprised of three main tasks that will create an easy to use system for the practical use and teaching purposes of an Agro-Chemical Service. Currently, the Cal Poly College of Agriculture is planning to identify services that can meet the practical needs of the Cal Poly Farm as well as the teaching purposes for students planning to get a Pest Controllers License. This project will primarily involve a detailed comparison and analysis of all the different functions and benefits that the two main Agro-Chemical companies available have to offer. Once the comparison and analysis of each program is completed, a service will be selected. A detailed classroom lecture and Pest Control Advisor User manual will then be created for the selected software.

Agro-Chemical Software Comparison

Agrian vs. CDMS

The first phase of this project will be done by studying, analyzing, and developing a detailed comparison of Agrian[®], Agrian Documented[™] and Crop Data Management Systems[®] (CDMS) by identifying the key characteristics that each service can provide to its user through a series of detailed charts. These are the top two Agridata companies in the nation and while both perform the same basic functions to the Agricultural community, they both have different valuable benefits and services that are not offered or developed by their competitor.

Classroom Lecture

A detailed classroom lecture that can be easily read, understood and successfully taught by any teacher within the College of Agriculture will also be developed. This classroom lecture will teach the basic functions necessary to use this software independently beyond the classroom. A test group will be organized and taught the preliminary version of this lesson plan in order to find any problems or issues that might occur while using this software. This lecture will be reviewed, critiqued and submitted to Dr. David H. Headrick of the Cal Poly Department of Horticulture.

Pest Control Advisor User Manual

A user manual providing a detailed outline and set of instructions will be created for the Cal Poly College of Agriculture. This manual will be designed for the use by a PCA. Although the College of Agriculture currently does not have a full time PCA, they plan to soon hire one in the near future. This information will be useful

in the case that the newly hired PCA is not familiar with the agro-chemical software that the College of Agriculture decides to use.

RESULTS

The results found below in Table 1 indicate the basic tools that must be available by a service in consideration and the basic tools that are desirable in a service that is being considered, but not necessary. The comparison tables below provide a detailed look at the tools offered by each service.

A table of basic services that must be provided and services that are desirable but not necessary to be considered is shown below in Table 1.

TABLE 1: Basic agro-chemical services list

Must:
<ul style="list-style-type: none"> • Pest Management Tools • Automatically import Sites From Grower Permits • Automatically Check Recommendations against pesticide labels for proper use • Electronically transmits reports to County Ag Commissioner as well as other involved parties such as growers, Advisors, Applicators • GIS/GPS field mapping Capabilities • Automatic use permit import from County • Extensive Product/Chemical Database • Electronically file product use reports (PUR)
Desirable:
<ul style="list-style-type: none"> • Mobile access to services via smart phone or tablet PC • Composition tools for detailed work orders (English/Spanish) • Employee exposure reporting tools • Additional Crop Management Services • Additional Soil Management Services • Additional Mapping

Below, in Table 2, only one basic tool is not offered by Agrian® and Agrian® Documented™ that CDMS® has available to its customers. Highlighted rows indicate the services offered by both CDMS® and Agrian®.

TABLE 2: Basic tools offered by each service

Functions	Services		
	Agrian®	Agrian® Documented™	CDMS® Advisor™
Crop Management	*	*	*
Soil Management			*
Pest Management	*	*	*
Mapping	*	*	*
Customer Assistance Services	*	*	*

A chart of specific advisor tools that are offered by each service is shown below. Highlighted rows indicate tools provided by all services compared.

TABLE 3: Specific advisor tools offered by each service

Functions	Product		
	Agrian® Advisor	Agrian® Documented Advisor™	CDMS® Advisor™
Free	*	\$500/yr	\$6400/yr
Automatically imports sites from Grower permits	*	*	*
Checks recommendations against label data quickly	*	*	*
Electronically transfers reports to reporting agencies	*	*	*
GPS/GIS Mapping Tools	*	*	*
Mobile Access via smart phone or Tablet PC	*	*	*
Automatic management of all food safety compliance documents		*	
Electronically transmit reports to food processors, handlers, and/or shippers		*	
Fax any document or work order at no additional charge directly from Agrian Documented Advisor Acct.		*	
Provides the use of the Agrian Documented logo in your marketing materials		*	

A chart of specific advisor tools that are offered by each service is shown below. Highlighted rows indicate tools provided by all services compared.

TABLE 4: Specific grower tools offered by each service

Functions	Product		
	Agrian®	Agrian® Documented Grower™	CDMS® Advisor™
Free	*	\$500/yr	\$6400/yr
Private Data Sharing Network	*	*	*
GIS/GPS Mapping Tools	*	*	*
Product/Chemical Reference Database	*	*	*
Automatic Permit Import from county	*	*	*
Label/MSDS Search	*	*	*
Electronically file use reports to state or county	*	*	*
Automatic management of all food safety compliance documents		*	*
Seasonal Planning Tools and Templates			*
Cropping Practices Data Tracking Tool			*
Mobile Access via smart phone or Tablet PC	*	*	*
Electronically file product use reports to packers/processors/handlers		*	
Archive, upload and transmit compliance documents required by the food processor, handler and shipper		*	
Provides the use of the Agrian Documented logo in your marketing materials		*	
Provides detailed Work Order with Mapping (English/Spanish)			
Employee Exposure Reports			

DISCUSSION

The results found in this project show that there are advantages and disadvantages to each of the services compared. The decision of what company provides the most optimal services to the College of Agriculture depends on the extent of services needed and desired by the College. While both companies services meet the basic needs of the College of Agriculture, the extent and performance of the additional services and tools provided by each company will be the deciding factor between which service is the best fit for the College of Agriculture.

The College of Agriculture is looking for a web-based agro-chemical service that provides the tools necessary for a Pest Control Advisor to create accurate and lawful pesticide recommendations that can be sent wirelessly to the County Agriculture Commissioner via the internet. This allows for pesticide recommendations to be handled and sent in a technological and efficient manner. The service must provide GPS/GIS tools for mapping and creating detailed records of each field containing field activity and significant field attributes. Mapping tools allow for specific records of each field to be kept, creating an easy to use reference for all parties involved with a particular field. These basic functions as well as many other functions listed (Tables 1, 2, & 3) are mutually provided by each service compared.

Agrian[®] provides its users with a web-based agro-chemical database mainly engineered toward use by Pest Control Advisors. Agrian[®] is the only free agro-chemical database service that that exists. This is due to the fact that most agro-chemical database services make a large profit by requiring pesticide manufacturers to pay a fee to register their product within their agro-chemical database. Agrian[®] charges no fee to its manufacturers on the condition that they are responsible for keeping all registered chemical labels current and up to date for customer use. By doing this, Agrian[®] is able to avoid charging its users with an annual fee for its services. Agrian[®] generates most of its profits through advertising and its more extensive Documented[™] service packages (See Tables 2 & 3). Agrian[®] also provides mobile app services to their users through the use of the Iphone, Itouch, or Ipad via internet. Agrian[®] only supports Apple products at this time for its mobile app features.

The additional Documented[™] service packages provide its customers with a number of services that are advantageous for grower, advisor, and applicator relationships with handlers and shippers. The Documented[™] services allow growers and advisors to create reports rapidly online, so that they can be sent to shippers, handlers, and regulatory agencies. Documented[™] services also automatically manage all food safety compliance documents.

While Agrian[®] is a top-notch service specific to the use of mainly advisors, applicators, and growers in regards to pesticide management, CDMS[®] (Crop Data Management Systems) is a much larger and more comprehensive company

in regards to its grower offered services. CDMS[®] is a comprehensive web-based Agronomy Management system. This company can provide support to its users in multiple areas of concern regarding production agriculture. Services of interest to the College of Agriculture offered by CDMS[®] can be found under its Advisor[™] services package. Advisor[™] services can be used by anyone for an annual rate of \$6400. The Advisor[™] service provides its user with decision support and tools for crop protection, soil performance, and GIS based field activity. These services are designed for use by producers, advisors, applicators, food companies and processors to enhance crop production and traceability. Although there is a cost connected to the use of the CDMS[®] Advisor[™] package, the services provided are much more extensive and detailed for its customers in comparison to Agrian[®].

The Crop Management tools offered by CDMS[®] can be helpful to a grower through its Seasonal Planning tool and its Cropping Practices tool. The Seasonal Planning tool provides an easy to use tool for defining and configuring season plans and application templates. This tool could be advantageous to growers because it allows for better scheduling consistency of field applications, resulting in better yield and quality objectives. This tool can also allow for better channels of communication between advisor, applicator, and grower. The Cropping Practices tool allows for cultivation, irrigation, crop input, field scouting, and harvest activities to be configured, scheduled, and tracked. This tool can be used to incorporate scheduling, logistics, equipment, and worker details for reporting, data collection, trending, and analysis.

The Soil Management tools offered by CDMS[®] can be seen as one of the main differences between Agrian[®] and CDMS[®] because there are no Soil Management tools that are offered by Agrian[®]. CDMS[®] offers its customers soil mapping, soil analysis, and soil nutrition tools. The Soil Analysis tool allows for growers to develop sampling grids and management zones to manage sampling activity and soil analysis. This tool also allows for lab results to be electronically imported to analyze and drive precision applications. The Soil Mapping tool allows for soil analysis to be enhanced by creating geospatial field overlays from soil texture, yield, field applications, lab results and recommendations, EC maps, and satellite imagery. The Soil Nutrition tool allows users to determine nutrient requirements by utilizing lab result driven formulas, lab recommendations, or manual specifications for fixed and variable rate applications. This tool also allows its users to create and manage work orders and delivery ticket to facilitate applications.

One of the most important parts of the CDMS[®] Advisor package is the Pest Management tools that it can provide to its users. These Pest Management tools include Scouting, decision support for pesticide applications, and advanced label and regulatory requirements. The scouting tools offered allows its users to monitor and record pest populations in an efficient manner of time. This tool also allows for pest observations to be combined with crop condition, weather, and application history for an extensive collection of data for trending modeling, and

pest management recommendations. The decision support tool enables its users to have a variety of product selection. This is done by a combination of field data to produce the best option of product for each situation. The advanced controls allow for users to augment product label and regulatory requirements to support a wide range of input control strategies such as food company rules, organic specifications, export requirements, user defined preferences and exclusions. One of the latest tools that CDMS[®] has come out with is mobile access via smart phone or tablet. This tool is advantageous because it allows growers, advisors, and applicators to access important information such as MSDS (Material Safety Data Sheet) documents and GPS site images for on-site applications and employee safety. Although CDMS[®] offers mobile access to its users, mobile services are only supported by android equipped smart phones and windows based PCs at this time. CDMS[®] hopes that within the future offering Apple based mobile services will be possible as well.

Another important aspect of CDMS[®] is The Mapping tools that it provides. CDMS[®] offers a GIS based mapping system that can allow its user to layer fields with important information regarding field records and points of interest. These features allow the user to easily create trend analysis data for comparison and stack many different types of geospatial layers.

Both CDMS[®] and Agrian[®] offer an extensive support team to give its users the assistance that they need to use their service correctly. These companies offer on-site or web-based training for all of their customers to ensure quality and satisfaction.

RECOMMENDATIONS

All three services compared proved to meet the minimal requirements necessary to satisfy the needs of The College of Agriculture. While Agrian[®] and CDMS[®] are two different companies, they both offer the pest management tools, as well as mapping tools. Both of these companies could be a good fit for the College of Agriculture, yet they both offer different services that could be advantageous to the College of Agriculture in different ways.

Agrian[®] could be advantageous to the College of Agriculture due to the fact that it is free. Although it does not offer all of the services that CDMS[®] can, it does a superior job for advisors. Agrian[®] seems to be set up mostly to help an advisor or grower choose, create and send pesticide use forms and recommendations.

Although Agrian[®] Documented[™] is a well rounded service package with tools that can be utilized for better communication with processors and handlers, its services cannot be justified due to the services it provides and the cost that they come at. If a service with additional tools was to be chosen, CDMS[®] would be a much greater value to the College of Agriculture.

CDMS[®] could be advantageous to the College of Agriculture because of its comprehensive services. The wide variety of services that CDMS[®] has to offer to growers through its Advisor package makes it a considerable and superior option to a grower or producer interested in services beyond just pest management. The unfortunate part of choosing CDMS[®] is that their services require an annual fee of \$6400.

I recommend that the College of Agriculture uses the service that will provide them with the optimal amount of efficiency. Agrian[®] should be used if the only services needed are for pest management. Agrian[®] is a free service to use and incorporates an extensive amount of information necessary to create pesticide use forms and recommendations. Although Agrian[®] should be used in the case that only pesticide management services are needed, CDMS[®] offers a wide variety of services to its users at a flat annual rate. I recommend that CDMS[®] is used if the users of this service feel that they will receive practical and efficient results through the use of this product.

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APPENDIX A
PROJECT REQUIREMENTS

How Project Meets Requirements for the ASM Major	
ASM Project Requirements - The ASM senior project must include a problem solving experience that incorporates the application of technology and the organizational skills of business and management, and quantitative, analytical problem solving.	
Application of agricultural technology	The project will require proficient use of two agro-chemical information services
Application of business and/or management skills	This project will involve the application of business and management skills through productivity analyses, and a comparison of contemporary forms of agriculture technology
Quantitative, analytical problem solving	Quantative analysis will include cost analysis and product efficiency analysis.
Capstone Project Experience - The ASM senior project must incorporate knowledge and skills acquired in earlier coursework (Major, Support and/or GE courses).	
Incorporates knowledge/skills from earlier coursework	203, Ag Systems Analysis, 321 Ag Safety, 348 Energy for a sustainable society, 418 Agricultural Systems Management I, SS 121 Introductory Soil Science
ASM Approach - Agricultural Systems Management involves the development of solutions to technological, business or management problems associated with agricultural or related industries. A systems approach, interdisciplinary experience, and agricultural training in specialized areas are common features of this type of problem solving. (insert N/A for any area not applicable to this project)	
Systems approach	This project will involve a comprehensive knowledge and capabilities to use various types of agro-chemical services.
Interdisciplinary features	This project touches on aspects of agricultural analysis, agricultural documentation preparation, various aspects of management and communication and an understanding of chemicals in relation to agronomy and the environment.
Specialized agricultural knowledge	This project requires specialized knowledge of Pest Control Advising, Integrated Pest Management and an understanding of important agriculture cultivation techniques.

APPENDIX B
CLASSROOM LESSON PLAN

Agrian Lesson Plan

Lesson Time: 2 hours

Objective: Students will learn to use the basic components of Agrian.

Materials Needed:

- Computer
- Internet

Procedure

Instructional Strategies	Demonstration Activity
Browser Configuration <ul style="list-style-type: none"> • Internet explorer configuration 	<ol style="list-style-type: none"> 1. Log on to the Internet using Internet Explorer 2. Go to www.Agrian.com 3. Create a free new profile using your primary email address 4. Log in to new account
Label lookup center <ul style="list-style-type: none"> • How to search for a label • Navigating the tabs within Agrian • Viewing and searching the label in PDF format • Adding products to favorites list 	<ol style="list-style-type: none"> 1. Type the desired product (ex. <i>Roundup Original</i>) into the search bar at the upper right hand corner of the home page and hit the fork button to the right of the bar. 2. A new screen will appear displaying the General information about the product 3. This will take you straight to the Details tab displaying the General Information tab below it 4. Within the Details tab will be a set of 6 tabs displaying a wide variety of information on the product 5. The label can be searched in PDF format by clicking on the yellow Documents tab. All of the PDF files on the product will be listed here. 6. A product can be added to your favorites list by simply clicking on the Favorites tab and searching the desired product. Then, click on add to favorites
Manage Data – Importing a Permit <ul style="list-style-type: none"> • Site selection • Site naming 	<ol style="list-style-type: none"> 1. Go back to the home page and click on the green Manage Data tab 2. Click on the Manually add grower tab 3. Enter information given by instructor
Mapping <ul style="list-style-type: none"> • How to map a site within Agrian • Permanent map notes (documented) <ul style="list-style-type: none"> • Driving directions <ul style="list-style-type: none"> ▪ English ▪ Spanish 	<ol style="list-style-type: none"> 1. Go back to the Manage Data Tab 2. Click on the Magnifying Glass to the left of your site name. 3. Click Manually Add Site 4. Enter the red starred info of the specific cal poly site 5. Once the map has been accessed, the user can get driving directions to any logged site from where they are at (English/Spanish)
Blocks	<ol style="list-style-type: none"> 1. Once a preferred Mapping site has been

<ul style="list-style-type: none"> • Setting up blocks within a site • Mapping blocks 	<p>found, click on the select a shape tab at the upper left hand side of the screen and select polygon</p> <ol style="list-style-type: none"> 2. Now click the Draw button to the right of the select shape tab. The site can now be drawn in by clicking the outside corners of the site.
<p>Crop History Tab</p> <ul style="list-style-type: none"> • Explain 	<ol style="list-style-type: none"> 1. The Crop History tab allows you to access all the previous information that has been recorded about that site.
<p>Manage Data - Applicator Management</p> <ul style="list-style-type: none"> • Adding/Editing an Applicator 	<ol style="list-style-type: none"> 1. An Applicator can Be added by clicking on the Manage Data Tab from the home screen 2. Next, click the green applicators tab 3. This area will allow you to add and edit an applicator
<p>Trusted Partners</p> <ul style="list-style-type: none"> • Ability to share reports electronically to other Agrian users 	<ul style="list-style-type: none"> • Trusted Partners are accounts that must be personally added to your account so that information can be authorized to be shared with them.
<p>REC Writing</p> <ul style="list-style-type: none"> • Location Information <ul style="list-style-type: none"> • Selecting a site • Add, quick and multiple buttons • Application Details <ul style="list-style-type: none"> • Adding products • Selection of label commodity and pest <ul style="list-style-type: none"> • auto populate REI and PHI from indexed label • Final Details <ul style="list-style-type: none"> • Restrictions, criteria used for determining REC • Extras <ul style="list-style-type: none"> • Comments • Report additions (PPE information, maps etc) • Electronic copy of PCA signature • Review <ul style="list-style-type: none"> • Preview of REC • Label notices, restricted products notice • Modification Options <ul style="list-style-type: none"> • Start over • Finish later • Save report • Select a recipient 	<ol style="list-style-type: none"> 1. Click on the green Data Entry tab 2. Click on the Reporting tab 3. Click on Recommendation (REC) tab 4. Enter the Location Information for given Cal Poly Site 5. Click on Application Details tab and enter application details for selected pesticide product 6. Add any application and product notes 7. Selecting a certain commodity will allow for certain pests to appear in the pest bar for the desired product 8. Click the Final Details tab and add any extra information needed 9. Click the Extras tab and add any extra information necessary to the REC and add electronic PCA signature 10. You will then be asked to review your REC and review the label and restricted notices 11. At anytime you can modify your REC by clicking the Modification Options tab. This will allow you to Start over, Finish Later, or Save Report 12. Warnings on the pesticide usage will appear on the upper right hand corner of the screen. 13. A recipient must be selected and the REC will be then sent to the given individual

APPENDIX C
AGRIAN USER MANUAL FOR PEST CONTROL
ADVISORS

AGRIAN USER MANUAL FOR PEST CONTROL ADVISORS

Browser Configuration:

1. Log on to the Internet using Internet Explorer
 2. Go to www.Agrian.com
 3. Create a free new profile using your primary email address
- Log in to new account

Label lookup center:

1. Type the desired product (ex. *Roundup Original*) into the search bar at the upper right hand corner of the home page and hit the fork button to the right of the bar.
2. A new screen will appear displaying the General information about the product
3. This will take you straight to the Details tab displaying the General Information tab below it
4. Within the Details tab will be a set of 6 tabs displaying a wide variety of information on the product
5. The label can be searched in PDF format by clicking on the yellow Documents tab. All of the PDF files on the product will be listed here.

A product can be added to your favorites list by simply clicking on the Favorites tab and searching the desired product. Then, click on add to favorites

Manage Data – Importing a Permit

1. Go back to the home page and click on the green Manage Data tab
2. Click on the Manually add grower tab
3. Enter information given by instructor

Mapping

1. Go back to the Manage Data Tab
2. Click on the Magnifying Glass to the left of your site name.
3. Click Manually Add Site
4. Enter the red starred info of the specific cal poly site

Once the map has been accessed, the user can get driving directions to any logged site from where they are at (English/Spanish)

Blocks

1. Once a preferred Mapping site has been found, click on the select a shape tab at the upper left hand side of the screen and select polygon

Now click the Draw button to the right of the select shape tab. The site can now be drawn in by clicking the outside corners of the site.

Crop History Tab

1. The Crop History tab allows you to access all the previous information that has been recorded about that site.

Manage Data - Applicator Management

1. An Applicator can be added by clicking on the Manage Data Tab from the home screen
2. Next, click the green applicators tab
3. This area will allow you to add and edit an applicator

Trusted Partners

1. Trusted Partners are accounts that must be personally added to your account so that information can be authorized to be shared with them.

REC Writing

1. Click on the green Data Entry tab
2. Click on the Reporting tab
3. Click on Recommendation (REC) tab
4. Enter the Location Information for given Cal Poly Site
5. Click on Application Details tab and enter application details for selected pesticide product
6. Add any application and product notes
7. Selecting a certain commodity will allow for certain pests to appear in the pest bar for the desired product
8. Click the Final Details tab and add any extra information needed
9. Click the Extras tab and add any extra information necessary to the REC and add electronic PCA signature
10. You will then be asked to review your REC and review the label and restricted notices
11. At anytime you can modify your REC by clicking the Modification Options tab. This will allow you to Start over, Finish Later, or Save Report
12. Warnings on the pesticide usage will appear on the upper right hand corner of the screen.

A recipient must be selected and the REC will be then sent to the given individual

APPENDIX D
BASIC AGRO-CHEMICAL SERVICES

Basic Agro-Chemical Services

Must:

- Pest Management Tools
- Automatically import Sites From Grower Permits
- Automatically Check Recommendations against pesticide labels for proper use
- Electronically transmits reports to County Ag Commissioner as well as other involved parties such as growers, Advisors, Applicators
- GIS/GPS field mapping Capabilities
- Automatic use permit import from County
- Extensive Product/Chemical Database
- Electronically file product use reports (PUR)

Desirable:

- Mobile access to services via smart phone or tablet PC
- Composition tools for detailed work orders (English/Spanish)
- Employee exposure reporting tools
- Additional Crop Management Services
- Additional Soil Management Services
- Additional Mapping