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*Providing ingredients for growth*

**Nutrien**  
Ag Solutions™



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Ag Solutions™

## Precision Agri-Lab

Precision Agri-Lab is an analytical laboratory and technology center dedicated to serving the needs of customers engaged in agriculture, horticulture, and related industries.

### Analytical Services

- Soil
- Plant
- Irrigation Water
- Fertilizer
- Nematode
- Disease
- Pesticide Residue Analysis

### Crop Monitor Program

### NutriScript™

### Weather Data Collection

### Soil Moisture Monitoring

### Precision Agriculture

### Variable Rate Technology

### GPS/GIS Mapping

### Agronomic Consulting

We invite you to explore the many services and tools we offer.

## Our Family

Precision Agri-Lab is owned by Nutrien, one of the largest retail ag chemical and fertilizer dealers in the United States. Nutrien Ag Solutions is a retail business unit of Nutrien, a leading global producer and distributor of nitrogen, phosphate, potash, and sulfate fertilizers.

## Internet Sites

**[www.precisionagrilab.com](http://www.precisionagrilab.com)** — This is our own open-access website containing additional information on each of the services described in this brochure.

**[www.nutrienagsolutions.com](http://www.nutrienagsolutions.com)** — Find information on Nutrien Ag Solutions locations, products, and services.

**[www.nutrien.com](http://www.nutrien.com)** — Corporate website with a wealth of information, including investor information. A



## Other Services

We can assist with:

- Remote Sensing
- Nutrient Management Planning
- Sampling Equipment

Please contact us for additional information.

## Facility/Equipment/ Location

Located in Madera, California, Precision Agri-Lab is conveniently situated in the heart of central San Joaquin Valley agriculture. However, we provide analytical services for clients from many areas, and are also permitted to receive foreign soil and plant tissue samples.

In our laboratory, you will find equipment similar to any commercial agricultural laboratory. We know the equipment only works as well as the employees who operate it. Not only are our laboratory personnel dedicated and knowledgeable, they are also efficient. We analyze more than 40,000 samples annually, and expect to continue growing our business.

## Quality Control

Producing quality results quickly is the primary objective at Precision Agri-Lab. To ensure accurate and precise data, we have implemented extensive quality control procedures. Daily QC procedures include running method blanks, duplicates, intra-laboratory control samples, and second source calibration verification samples. Precision Agri-Lab also participates in the Collaborative Testing Services ALP for agricultural laboratory proficiency — a voluntary program involving sample exchange and independent evaluation.

We are absolutely dedicated to maintaining the highest integrity in our sample analyses. We simply will not report a result until we are confident we have done all we can to ensure it is correct. We stand behind our work, and will re-run any disputed results free of charge.



## Turnaround Time

We understand how important it is to receive results quickly. We strive to return plant tissue results within one business day and soil results within two business days from receipt of samples.

## Pricing

Our pricing is competitive with other like-minded laboratories. We recommend you work through one of our Nutrien Ag Solutions branches. If you are in an area not covered by Nutrien or have special needs, you may contact us directly for pricing information.

## Soil Analysis

Fertile soils are productive soils. Precision Agri-Lab offers complete soil test packages to evaluate residual nutrient levels, and to identify other soil quality factors. We utilize laboratory methods recommended by regional universities and suited to the geographies from which the samples originate. We provide general pre-plant nutrient recommendations with our reports, and suggest you work with your local crop adviser to refine those recommendations to achieve your specific objectives.

## Plant Analysis

Monitoring the status of plant nutrients in the growing crop is an excellent tool to ensure crop needs are being met. Weather, cultivar, soil conditions, fertilization, cultural practices, and other factors all influence the nutritional needs of your crops. Monitoring the nutrient levels in the plant and knowing what the optimum nutritional ranges are for a particular growth stage will give you peace of mind, as well as opportunity to adjust fertilization practices if excesses or deficiencies are identified.



## Variable Rate Technology

You've been varying inputs since the day you started farming. You know different fields and different areas within the same field have different needs. Now you can vary those inputs efficiently and automatically in management units as small as 1/20<sup>th</sup> of an acre. It makes sound agronomic sense to apply the right amount in the right place. Why farm for only the average yield?



## GPS/GIS Mapping

Detailed maps of your crop production acres have many uses. Using GPS/GIS, we map your field boundaries, and provide accurate acreage estimates. We display all your fields on a general map including major roads and other important features.

## Agronomic Consulting

Our staff agronomists can assist you with report interpretations and recommendations, or any other agronomic technical assistance you may require. We are continually evaluating new technology, services, and products. Your comments and questions are always welcome.

## Precision Agriculture

The scientific definition:

The application of technologies and principles to manage spatial and temporal variability associated with all aspects of agricultural production for the purpose of improving crop performance, utilizing inputs, resources, and assets efficiently, and preserving environmental quality.

The quick and dirty definition:

The right input  
At  
The right amount  
In  
The right place  
At  
The right time  
In  
The right way

Talk to us about your precision ag needs. We have tools to help you farm on a site-specific basis.



## Irrigation Water Analysis

Irrigated agriculture relies on water to sustain crop production. Water quality varies depending on the source. Salinity management, infiltration effects, specific ion toxicities, pesticide efficacy, and irrigation system maintenance are all influenced by water quality. We recommend you periodically obtain an irrigation water analysis from each source, whether surface or groundwater, to monitor water quality.



## Fertilizer Analysis

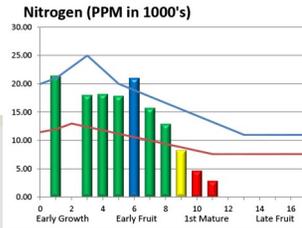
As a courtesy to our customers, we provide limited testing capability for fertilizers and rinsewaters.

## Nematode, Disease, and Pesticide Residue Analyses

Precision Agri-Lab works with competent, independent laboratories to satisfy your needs for nematode, disease, or pesticide residue analyses. Please contact us for information about sampling, pricing, and handling of such samples.

## Crop Monitor Program

Our Crop Monitor Program (CMP) is a service offered to our customers through Crop Production Services. Simply stated, CMP is the collection of soil and plant samples at key growth stages or regular intervals. Years of plant analysis data were used to establish preferred N, P and K levels for maximizing crop production. Results are displayed in a easy-to-understand color-coded report allowing you to quickly assess the nutritional status of your crop. You can then adjust your fertilizer inputs to meet crop needs and optimize your yields.



## NutriScription

NutriScription is a complete nutritional prescription service offered by Crop Production Services' proprietary product supplier, Loveland Products. Using tissue analysis data, specific product recommendations are provided to assist in meeting your crop's nutritional needs.

## Weather Data Collection

We maintain a wireless network of several hundred weather data collection sites throughout our service area. These weather stations collect temperature, relative humidity, precipitation, and wind speed and direction, etc. This information may then be used to initiate frost alarms, report accumulated chill hours, calculate growing degree days, and run crop disease models such as grape powdery mildew, strawberry botrytis, tomato late blight, or lettuce downy mildew.



This same wireless network can be configured with additional sensors that monitor well water depth, lagoon or tank levels, irrigation system pressure, drip irrigation flows, and soil moisture monitoring devices.

## Soil Moisture Monitoring

Water plays a significant role in crop production. Adequate and timely irrigations are essential to excellent crop yield. We market and support the latest devices for monitoring soil moisture. The better soil moisture sensors available today use capacitance technology to distinguish relative soil moisture levels. Data is automatically collected and transmitted several times daily via a remote wireless network. Using the Internet, you have access to your specific sites anytime and anywhere.