

Lindcove Research and Extension Center **STRATEGIC PLAN**

2015 - 2035



University of California
Agriculture and Natural Resources

Research and Extension Center System

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INTRODUCTION

The Lindcove Research and Extension Center (LREC) is one of the nine Research and Extension Centers (RECs) of the University of California Division of Agriculture and Natural Resources (UC ANR). The Centers are located throughout California's various ecosystems and climatic zones, representing nearly every type of agricultural and natural resources system in California. The RECs offer researchers places to conduct high-quality experiments, and they deliver scientific information to local communities.

LREC is located in the foothills of eastern Tulare County on 175 acres of San Joaquin loam soil. LREC was established in 1959 by local citrus growers and the University of California Riverside. LREC continues its valued partnership with the citrus industry, which funded the fruit packing line as well as screenhouse structures, a laboratory, and a positive pressure greenhouse for the Citrus Clonal Protection Program (CCPP). The CCPP program provides disease-tested citrus budwood to nurseries throughout California. LREC typically supports 30 research projects per year from a variety of researchers and institutions, including the University of California (UC) and the United States Department of Agricultural Research Service (USDA-ARS).

The majority of the acreage at LREC is planted with citrus; however, there are also small acreages of olives, pomegranates, avocados, and walnuts. LREC orchards, greenhouses, laboratories, and fruit-grading equipment are used by scientists to conduct research projects that evaluate new varieties, better ways to grow the crops, and new ways to manage pests and diseases. The Center plays a major role in developing new citrus varieties and determining the best rootstock and scion combinations for San Joaquin Valley conditions. Molecular biology disease management tactics developed in campus laboratories are put to the **test in field situations at LREC**. The percentage of noncitrus crops and type of citrus research is expected to increase with the anticipated arrival of the citrus disease *huanglongbing*, also known as citrus greening disease. LREC is in a position to meet the future research and extension needs of citrus and other tree crops.



STRATEGY FRAMEWORK

UC ANR Vision Statement

ANR envisions a thriving California in 2025, where healthy people and communities, healthy food systems, and healthy environments are strengthened by closer partnerships between the University of California and its research and extension programs and the people of the state. The University remains connected and committed to the people of California, who enjoy a high quality of life, a healthy environment, and economic success in the global economy.

Lindcove REC Mission Statement

Lindcove Research and Extension Center serves as a center for research and extension education on citrus production and other crops in a central San Joaquin Valley foothill climate.

STRATEGIC PLANNING PROCESS

REC system overarching goals

In 2012 UC ANR launched a coordinated, future-oriented strategic planning effort for all nine RECs. The strategic planning charge is to develop a long-term and big-picture strategic plan centered on stakeholder input. The strategic plan is designed to serve as a “living document,” a flexible framework to set direction and focus effort over the next 20 years. The strategic planning effort is intended to be inclusive, future-oriented, and focused on implementation and assessment of plan deliverables through time.

The REC system’s overall strategic planning effort is structured to include the following guiding goals:

- Develop an effective and organized approach for research and outreach at the centers and among the centers.
- Increase collaboration across the UC ANR network, including collaborations with surrounding University of California Cooperative Extension (UCCE) programs.
- Engage the local community in planning and implementation (local community is not necessarily geographically based but also subject-area based).
- Engage partners not previously affiliated (e.g., nonANR UC campuses, California State Universities and other colleges, agencies, organizations).
- Align the REC strategic plan with the UC ANR Strategic Vision 2025.
- Develop an effective communication and

outreach program to increase visibility and programmatic impact of the REC system.

- Ensure REC resources are effectively and efficiently utilized, and explore new and diverse opportunities.
- Reconstruct the REC system identity by enhancing programming and facility resources.

Planning process

In February 2015, a 12-member strategic planning committee was formed (see table next page) with members broadly representing major LREC stakeholder groups. These core committee members served as assessment and feedback links with the diverse stakeholder group vested in the long-term future of LREC. In March 2015, the LREC Strategic Planning Committee kicked off its strategic planning process that included assessment, strategy formulation, and implementation accountability. The committee had four 1-day, in-person meetings. The first meeting provided an overview of the Division’s vision, the UC REC system’s long-term goals, and LREC’s mission, history, and operations. The committee conducted a situational analysis that included obtaining input from other key stakeholders to identify current strengths of LREC, as well as outlining potential future opportunities and challenges that could influence how LREC operates in the future. The second meeting focused on understanding and exploring the stakeholder input and synthesizing this input into broad strategic directions. The third meeting focused on refining the scope of the strategic directions through developing goals and key actions associated with

each strategic direction. Committee members then went back to key stakeholder groups to get feedback on the committee’s proposed strategy, which was discussed during the fourth meeting and helped refine the content of the draft strategic plan. The LREC Director, REC System Director, and facilitators finalized the draft strategic plan, including implementation accountability elements, intended outcomes, implementation responsibility, and deliverables. This final draft plan was circulated one last time for committee member comment during December 2015.

Implementation of strategic plan and assessment of outcomes

Early on in the REC system’s strategic planning process, it was recognized that the strategic planning process must be intimately linked to a streamlined and executable implementation and assessment plan. Toward this end, the LREC Director identified deliverables associated with each key action as well as the persons/organizations with implementation authority. This broad matrix that links strategic directions, goals, and actions with implementation responsibility and deliverables will be used as the framework for identifying implementation priorities and assessing implementation progress through time. The LREC Director in conjunction with REC system administrators will develop annual priorities for plan implementation. Deliverables associated with goals and key actions will be used by REC administrators and the LREC Director to jointly set outcome targets and annually review progress toward priorities.

COMMITTEE MEMBER	COMMITTEE MEMBER STAKEHOLDER AFFILIATION	STAKEHOLDER GROUPS THAT PROVIDED INPUT
Beth Grafton-Cardwell, <i>Chair</i>	Director, UC ANR LREC and CE Integrated Pest Management Specialist and Research Entomologist, UC Riverside	<ul style="list-style-type: none"> • Local community educators • UC ANR Master Gardeners • UC Riverside Entomology Faculty and Staff Research Associates
Ed Civerolo	Retired, USDA-ARS Parlier and Citrus Research Board	<ul style="list-style-type: none"> • U.S. Department of Agriculture
Elizabeth Fichtner	CE Orchard Systems Advisor, UCCE Tulare County	<ul style="list-style-type: none"> • UCCE Farm Advisors
Kris Godfrey	Associate Project Scientist, UC Davis	<ul style="list-style-type: none"> • CA Department of Food and Agriculture: Diagnostics, Plant Pests Diagnostic Center • Texas Plant Network
Jim Gorden	Grower/Owner, Gorden Ag	<ul style="list-style-type: none"> • Citrus growers
Robert LoBue	Owner, LoBue Bros Inc.	<ul style="list-style-type: none"> • Citrus packing house managers
George McEwen	Pest Control Advisor, Leffingwell Ag Sales Company	<ul style="list-style-type: none"> • Pest Control Advisors • Pest Control Districts • Pest Control Operators
Marylou Polek	VP of Science and Technology, Citrus Research Board	<ul style="list-style-type: none"> • CA Citrus Quality Council • Citrus Research Board • Sunkist
Philippe Rolshausen	CE Sub-Tropical Crops Specialist, UC Riverside	<ul style="list-style-type: none"> • California Avocado Commission • Citrus Research Board • College of Natural and Agricultural Sciences, UC Riverside • UCCE Specialists at UC Riverside
Kurt Schmidt	Principal Superintendent of Agriculture, UC ANR LREC	
Georgios Vidalakis	CE Plant Pathology Specialist and Director of Citrus Clonal Protection Program, UC Riverside	<ul style="list-style-type: none"> • California Citrus Nursery Society • U.S. Department of Agriculture – Agricultural Research Service
Bob Zuckerman	Owner, B&Z Nursery	<ul style="list-style-type: none"> • Nurseries
Lisa Fischer, Ex-Officio	REC System Director	
Kit Alviz, Facilitator	Analyst, UC ANR Program Planning and Evaluation	
Sherry Cooper, Staff	Director, UC ANR Program Support Unit	



STRATEGIC DIRECTION #1

Increase and diversify research and extension programs

The devastating and currently incurable citrus disease, *huanglongbing* (HLB), is present in southern California and is expected to spread to the LREC region. Research programs at LREC by necessity will shift to address the disease and the vector, Asian citrus psyllid, that transmits the bacterium. New types of research will include citrus varieties that may be genetically engineered, high-density plantings, early disease detection techniques, and new strategies of psyllid management. As HLB advances through the state, the CCPP program will continue to be the primary source of disease-free budwood, and its role will become even more critical. In an effort to protect the citrus and diversify research programs at LREC, noncitrus crop research projects will need to be explored and expanded.

Goals

1. Address critical issues to sustain the viability of citrus as a commercial crop.
2. Improve adaptability and flexibility to meet future crop needs.

Intended Outcomes

- Expanded research programs that address *huanglongbing* and provide disease management tactics that are adopted by the citrus industry.
- Expanded capability of the Citrus Clonal Protection Program to provide the nursery industry with disease-tested budwood.
- Diversified disciplines and crops that respond to the pest, disease, and environmental challenges.
- Increased number of ANR positions and collaborations within and outside the UC system to expand research and reach new audiences.

STRATEGIC DIRECTION #1

Goal 1: Address critical issues to sustain the viability of citrus as a commercial crop.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Facilitate research to address critical issues in citrus management, such as horticulture, production, pests and disease (e.g., breeding, genetically modified organisms, orchard design strategies, disease resistance, early detection)	LREC Director, in collaboration with Research Advisory Committee and citrus industry	<ul style="list-style-type: none"> Increased number of new research projects addressing critical issues Citrus acreage to support research developed Additional protective structures developed
B. Explore opportunities to create a buffer against invasive pests and diseases	LREC Director, REC System Director, Facilities Planning and Management, Research Advisory Committee	<ul style="list-style-type: none"> Plan for land buffers developed
C. Identify new academic positions to support the citrus industry to serve the San Joaquin Valley region	LREC Director and UCCE Tulare and Fresno County Directors, CE Specialist working with citrus industry	<ul style="list-style-type: none"> Committee created to develop position proposal submitted to UC ANR Position description(s) for UC ANR's call for positions drafted and submitted
D. Continue to enhance the ability of the CCPP to protect the genetic resources of the industry	CCPP Director and LREC Director, in collaboration with citrus industry	<ul style="list-style-type: none"> Strategic plan for the CCPP program developed
E. Expand outreach programs for stakeholders (e.g., citrus growers, nurserymen, homeowners) on topics of citriculture and citrus pest and disease management	LREC Director and CE Specialists and Advisors, in collaboration with citrus industry	<ul style="list-style-type: none"> Increased educational opportunities at LREC and UCCE county offices

Goal 2: Improve adaptability and flexibility to meet future crop needs.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Diversify research programs across disciplines to expand the number of crops	LREC Director, in collaboration with CE Specialists and Advisors, UC and non-UC faculty, USDA-ARS, and commodity boards	<ul style="list-style-type: none"> Increased number of new research projects Increased type of crops Increased usage and capacity of laboratory, pack line, and field
B. Foster collaborations among research and extension personnel both within and outside the UC system	LREC Director, in collaboration with CE Specialists and Advisors, UC and nonUC faculty, USDA-ARS, and commodity boards	<ul style="list-style-type: none"> Increased number of new collaborations Increased number of projects with new UC researchers Expanded reach for call for proposals
C. Increase connections with new commodities and allied industries	LREC Director, in collaboration with CE Specialists and Advisors, UC and non-UC faculty, and commodity boards	<ul style="list-style-type: none"> Diversified stakeholder and public/private partnerships New connections made with new commodities



STRATEGIC DIRECTION #2

Strengthen and enhance resources for growing facilities, staffing, and administration

This strategic direction addresses the need for enhancing the infrastructure, human resources, and funding at LREC to meet the challenges of the coming decades and attract new research programs. New infrastructure includes expanded land area for field plots, office space, laboratory space and equipment, alternative energy sources, greater water storage, upgraded computer technology, enhanced CCPP facilities, and additional outreach facilities. Capabilities for higher levels of technical skills in support staff are important for selection of LREC as a site for research. Support for safety, health, ethics, and regulatory policies are critical for a healthy work environment. Attracting new collaborations, augmenting funding, and planning for succession are also essential elements of the long-term stability of the Center.

Goals

1. Improve and increase physical infrastructure to support expanded research.
2. Provide policies and infrastructure necessary to meet safety and regulatory needs.
3. Develop human resource capacity to meet increased demands and needs.
4. Create a succession plan for future leadership.
5. Improve physical infrastructure for outreach.
6. Increase and diversify funding base.

Intended Outcomes

- Increased land area to protect citrus (distance from neighboring commercial citrus) and expand programs.
- Infrastructure enhancements to support additional staff, researchers, and programs.
- Alternative energy sources to allow for reduction in expenses and environmental impacts.
- Increased highly skilled laboratory and field staff and Information Technology (IT) support.
- Outside funding and collaborations with other institutions will increase the research and extension capacity of the Center.

STRATEGIC DIRECTION #2

Goal 1: Improve and increase physical infrastructure to support expanded research.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Explore opportunities for expanding field research	REC System Director and LREC Director	<ul style="list-style-type: none"> Increased and/or diversified crop study systems created
B. Increase research facilities, office space, and dorms	LREC Director, in collaboration with UC ANR Facilities, Planning and Management and UC ANR Development Services	<ul style="list-style-type: none"> Capital campaign implemented Long-term capital improvement plan developed Capital improvements made in postharvest facilities, laboratories, office space, and dorms
C. Ensure computer and network communications systems are in place	LREC Director, in collaboration with UC ANR Communications Services and Information Technology (CSIT)	<ul style="list-style-type: none"> State of the art technology to support research and extension activities
D. Explore alternative energy sources, such as solar energy, to reduce expenses and environmental impacts	REC System Director, LREC Director, UC ANR Facilities, Planning and Management	<ul style="list-style-type: none"> Long-term capital improvement plan developed New technologies for energy solutions identified and implemented
E. Ensure water availability and quality meets new demands	REC System Director and LREC Director, in collaboration with local water agencies and UC ANR Facilities, Planning and Management	<ul style="list-style-type: none"> Long-term strategy for water needs developed and implemented
F. Maintain and improve CCPP facilities	CCPP Director and LREC Director, in collaboration with Citrus Research Board, UC ANR Development Services, and UC ANR Facilities, Planning and Management	<ul style="list-style-type: none"> Facilities improvement plan developed and implemented

Goal 2: Provide policies and infrastructure necessary to meet safety and regulatory needs.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Develop researcher and staff orientation program for protocols focusing on safety, ethics, HR issues, etc.	LREC Director, in collaboration with UC ANR Human Resources and UC ANR Risk and Safety Services	<ul style="list-style-type: none"> Orientation and training program checklist created
B. Engage in the process to request a position from UC ANR to assist with state and federal regulatory issues that affect LREC's ability to conduct research	REC System Director and LREC Director	<ul style="list-style-type: none"> Position rationale/justification documented Position developed for UC ANR
C. Develop a safety/compliance committee or compliance control officer	LREC Director, UC ANR Environmental Health & Safety	<ul style="list-style-type: none"> Oversight committee/position developed
D. Develop protocols for moving plants and pests that are consistent with current regulations	LREC Director, in collaboration with Tulare County Agriculture Commissioners Office, California Department of Food and Agriculture, and USDA	<ul style="list-style-type: none"> Policies and protocols developed and updated

Goal 3: Develop human resource capacity to meet increased demands and needs.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Ensure staff is skilled and trained to accommodate new crops and new research programs	REC System Director and LREC Director	<ul style="list-style-type: none"> Staffing plan developed Training and mentoring from other RECs and facilities
B. Engage academics with expertise to accommodate new crops and new research programs	REC System Director, LREC Director, UCCE Tulare County, and various new and agriculture-related departments in UCD and UCR	<ul style="list-style-type: none"> Increased number and diversity of academics conducting research
C. Develop staffing strategy to enhance outreach	LREC Director, LREC Leadership Team, and UCCE Tulare County Director	<ul style="list-style-type: none"> Programs established with nutrition, 4H, agricultural advisors and other partners Volunteers utilized Additional staff hired New collaborations with UCCE to provide outreach program delivery
D. Support agricultural research or extension internships for graduates and undergraduates of local colleges	LREC Director and CE Specialists and Advisors	<ul style="list-style-type: none"> Increased number of interns

Goal 4: Create a succession plan for future leadership.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Develop a leadership succession plan for LREC	REC System Director and LREC Director	<ul style="list-style-type: none"> Staff succession plan developed UC personnel with potential for leadership engaged

Goal 5: Improve physical infrastructure for outreach.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Create a capital improvement plan to accommodate large audiences for extension, education, and outreach programs	LREC Director and UC ANR Facilities, Planning and Management	<ul style="list-style-type: none"> Capital improvement plan developed Capital improvements in roadways, buildings, vehicles, and other structures for outreach
B. Expand digital/tech-friendly outreach activities	LREC Director, in collaboration with UC ANR CSIT	<ul style="list-style-type: none"> New technologies utilized

Goal 6: Increase and diversify funding base.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Explore opportunities to increase new funding and revenue streams to the Center	LREC Director, in collaboration with UC ANR Office of Development Services and commodity boards	<ul style="list-style-type: none"> Fundraising campaign developed New revenue streams Increased number of grants Established endowments
B. Encourage private organizations to utilize LREC resources	LREC Director	<ul style="list-style-type: none"> Increased revenue from use of fields, postharvest facilities, and laboratory



STRATEGIC DIRECTION #3

Expand visibility of LREC

This strategic direction addresses the importance of expanding the visibility of LREC to commodity groups, the general public, and the research community. New faculty and extension personnel on the campuses and in the Cooperative Extension county offices need to be introduced to the opportunities that LREC provides for their programs. Indoor and field day workshops, online courses and sites, and strong media relations place LREC in the heart of outreach to the communities. Targeting groups such as Master Gardeners to “train the trainers” will expand the reach of LREC.

Goals

1. Improve communication to industries and commodity groups.
2. Increase outreach activities for the general public.
3. Market LREC resources to researchers.

Intended Outcomes

- Increased awareness among commodity groups of LREC and the agricultural issues that it supports.
- Greater understanding of citrus horticulture and agriculture, in general, through increased outreach to the general public.
- Increased utilization of the Center and technology transfer to the field by UC academics.
- Heightened visibility of the Center through greater interaction with media.

STRATEGIC DIRECTION #3

Goal 1: Improve communication to industries and commodity groups.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Increase communication to industries and commodity groups about LREC opportunities	LREC Director, in collaboration with CE Advisors and Specialists and commodity boards	<ul style="list-style-type: none"> Increased number of oral presentations to industry Increased number of workshops, field days, and demonstrations
B. Make available online a collection of materials from events, activities, or research	LREC Director, CE Advisors and Specialists, and UC ANR CSIT	<ul style="list-style-type: none"> Searchable online content (e.g., handouts, videos, event record) Current content on website

Goal 2: Increase outreach activities for the general public.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Train Master Gardeners and agriculture/science teachers (train the trainers)	LREC Director, staff, UC Master Gardener Director, and CE Advisors	<ul style="list-style-type: none"> Number of workshops
B. Educate the general public (e.g., Rare Fruit Growers, garden clubs, hobbyists) about LREC resources (e.g., clean plant material, horticulture) through workshops and forums	LREC Director, staff and CE Advisors and Specialists	<ul style="list-style-type: none"> Number of products, activities, and events
C. Develop youth educational activities	LREC Director, staff, CE Advisors, Statewide 4-H SET program, and High School Ag Academies	<ul style="list-style-type: none"> Number of products, activities, and events
D. Expand media relations	LREC Director, in collaboration with UC ANR CSIT	<ul style="list-style-type: none"> Media/marketing plan Advocacy materials
E. Increase engagement with educational institutions	LREC Director, in collaboration with UC and non-UC academics	<ul style="list-style-type: none"> Provide products, curricula, or speakers

Goal 3: Market LREC resources to researchers.

KEY ACTIONS	IMPLEMENTATION RESPONSIBILITY	DELIVERABLES
A. Conduct orientation for early career academics	REC System Director, LREC Director	<ul style="list-style-type: none"> • Tours of RECs
B. Develop and disseminate information about LREC, describing research opportunities and resources	REC System Director and LREC Director, in collaboration with UC ANR CSIT	<ul style="list-style-type: none"> • Video production and posting • Newsletter created and distributed • Press release for academics of high impact research created and distributed
C. Engage UC and other university Deans of Agriculture to participate in LREC activities	REC System Director and LREC Director	<ul style="list-style-type: none"> • Increased communication with UC and other university Deans of Agriculture



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Website: http://ucanr.edu/sites/anrstaff/Diversity/Affirmative_Action/.