- 10 campuses
- 5 medical centers
- 3 national laboratories
- 150 academic disciplines
- 600 graduate degree programs
- 238,700 students
- 198,300 employees
- 1.7 million living alumni
- 61 Nobel laureates
- 20,000 UC extension courses
- 430,000 jobs supported
- $46.3 billion contributed to California economy
“At UC we combine education, research, operational sustainability, cutting-edge entrepreneurship, and public service in a way that uniquely positions us to help take on both the local and global challenges of climate change.”

— UC President Janet Napolitano, 2016 UC Annual Report on Sustainable Practices

Since the opening of its first campus in 1868, the University of California system has been committed to responsible stewardship of its resources and education and innovation for the public good. Today, its 10 campuses and five medical centers are nationally recognized living laboratories of sustainability. From directly investing in a sustainable future to innovating climate solutions, UC is working to ensure that students have a healthy environment in which to learn for generations to come.

https://www.ucop.edu/sustainability/
UC Structure of Sustainability

Missing:
- Landscaping
- IPM
- Pesticides/Herbicides
Inquiries from multiple levels and diverse stakeholders about herbicides

1. Regents

2. Student groups and faculty

3. Public petition to President Napolitano and the Regents (2018)
Herbicide in Focus: Glyphosate

Monsanto case: Bay Area man with cancer awarded $289 million in damages

Bayer faces second trial over alleged Roundup cancer risk
CHANCELLORS
VICE PRESIDENT HUMISTON
DIRECTOR WITHERELL
MEDICAL CENTER CEOS

SUBJECT: Temporary suspension of the use of glyphosate-based herbicides

Dear Colleagues:

Following our discussion at the Council of Chancellors meeting earlier this month, I am hereby issuing a temporary suspension (with several exceptions) of the use of glyphosate-based herbicides at all UC locations due to concerns about possible human health and ecological hazards, as well as potential legal and reputational risks associated with this category of herbicides. The University is currently considering longer-term approaches to the use of glyphosate-based herbicides, as well as other pesticides, and may alter or terminate this temporary suspension after expert review. Toward this end, I am separately initiating the UC Herbicide Taskforce to provide me with guidance in the near future.

All UC locations shall suspend the use of glyphosate-based herbicides starting on June 1, 2019, subject to the following exceptions only:

- Agricultural operations;
- Fuel-load management programs to reduce wildfire risk;
- Native habitat preservation or restoration activities; and
- Research that requires glyphosate-based herbicides.

If a UC location determines that alternatives to glyphosate-based herbicides are either technically infeasible or ineffective in situations other than the four aforementioned exceptions, that location may submit a request to the UC Herbicide Taskforce for a specifically tailored exception. Such requests may be granted within the sole discretion of the taskforce.

balancing the objective of this temporary suspension against the location's demonstration of infeasibility or ineffectiveness.

Where UC staff continue to use glyphosate-based herbicides pursuant to an exception, two restrictions shall apply to such operations. First, UC staff applying these herbicides shall either possess a valid license or certificate (applicable to the operation in question) from the California Department of Pesticide Regulation or receive appropriate training and/or direct supervision by a person thus licensed or certified. Second, UC staff applying these herbicides shall follow all applicable personal protective equipment recommendations of the herbicide's manufacturer and of that UC location's environment, health and safety department.

Yours very truly,

[Signature]

President

cc: Executive Vice President and Chief Operating Office Rachael Nava
Executive Vice President John Stobo
General Counsel Charles Robinson
Interim Vice President Craig Leasure
Associate Vice President Cheryl Lloyd
Director Peggy Fiedler
Opportunities

● No other (public) university system has taken such bold action
● Best practice sharing among UC campuses, other colleges and universities, cities
● Broader focus → IPM?
  ○ How can we manage our campuses as ecological spaces that are protective of pollinators, student health, etc.

And Internal Taskforce (which I’m on) of experts is discussing these and will provide recommendations to the President in November.
Challenges

- Moving away from chemicals will cost money (up to over several million/year for just one campus) due to increased labor costs and the costs of alternatives
- Ergonomics and safety of workers who are hand-weeding or on hillsides
- Some alternatives are detrimental to human health/environment
- Maintenance of campus aesthetics (weeds symbolize neglect)
Documenting herbicide use and alternative technologies that campuses are experimenting with:

<table>
<thead>
<tr>
<th>Site Details</th>
<th>Synthetic Herbicides</th>
<th>Alternatives to Synthetic Herbicides</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Campus Landscape</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthetic Herbicides Used</td>
<td>Glyphosate Annual Application Rate (Diluted)</td>
<td>Clove Oil and vinegar based Steam Flame Hand Weeding Corn Gluten Mulching Natural/ Eco-Friendly Chemicals Herbicide-Free Zones Other methods</td>
<td>Non-herbicide alternatives Projected costs to transition</td>
</tr>
</tbody>
</table>
Testing Alternatives
Toxics Reduction WG Accomplishments

- Converted cleaning chemicals to Green Seal/Green Guard
- Eliminated Triclosan/Triclocarban in hand soaps
- Funded update of “Toxic Matters”, a parent brochure on how to prevent toxics exposure to children at home
- Funded phone and web app development of Pediatric Environmental Health Toolkit that educated daycare providers
- Developed toxics reduction criteria in the Technical Performance Criteria for new building and renovation construction projects
- Incorporated The Red List elimination in $40M furniture contract for 7 new buildings
- Developed partnership with Walgreens for a Safe Medication Disposal Kiosk

EPA Chemicals of Concern/The Red List

Alkylphenols, BPA, phthalates - endocrine and reproductive disruptor
Halogenated Flame Retardants (Br, Cl) - carcinogen
Perfluorinated compounds – PFCs - Stain repellants - endocrine & reproductive and immune system disruption
Hydrofluorocarbons - CFCs, HCFCs - ozone depleted, potent GHG
Chlorinated polyethylene (CPE, CSPE, neoprene) - carcinogens
TCE, chlorobenzenes – carcinogen, neurotoxicity
PVC - CPVC, PVDC – carcinogens
Formaldehyde – carcinogen, asthma trigger
Heavy metals – Cd, Hg, Cr VI, Pb – carcinogen, neurotoxins
VOCs and Chlorinated Paraffins – carcinogen, organ damage
Creosote, arsenic, pentachlorophenols - carcinogen, organ damage
Thank you

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