



Dollars and Cents: Economic and Policy Changes in Algae

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Concept to Commercialization



CONTINUUM

A continuous sequence in which adjacent elements are not perceptibly different from each other, **but the extremes are quite distinct.**

- Oxford

2

CONTINUUM

- **Proof of Concept** 
- **Obtain Intellectual Property Rights** 
- **Secure Funding Partners** 
- **Select Commercial Application** 
- **Establish Regulatory Clearance** 
- **Go to Market** 

R&D

NIH Guidelines

EPA TSCA (R&D, TERA, MCAN)

USDA permit for movement

State Laws

Algal Strains

Cultivation

Harvest, Drying

Product Recovery

chemical feedstocks, nutrients, air, water, CO₂

MANUFACTURING

EPA TSCA MCAN, CAA, FIFRA

USDA – Plant pests only (FOR NOW)

FDA – GRAS, AAFCO, FAP

NEPA, ESA if federal funding

State Laws

EPA CAA, TSCA

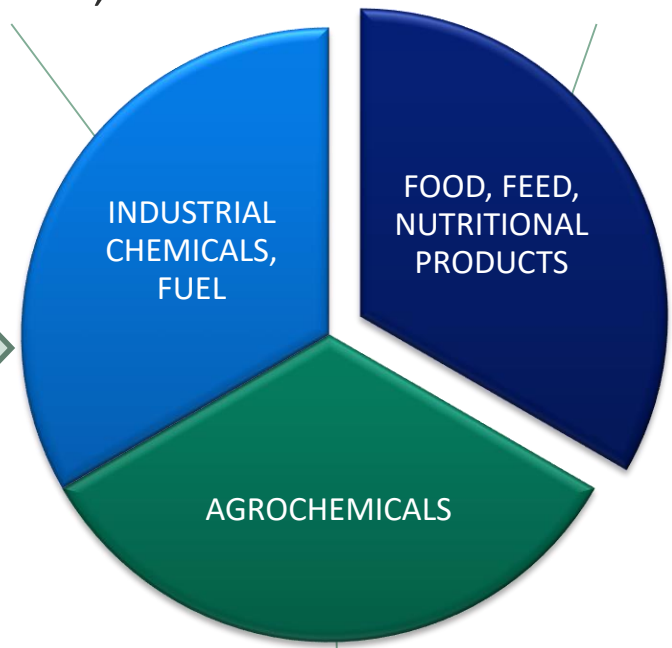
DOD, DOT/FAA

TTB – for EtOH, BuOH

FDA

AAFCO

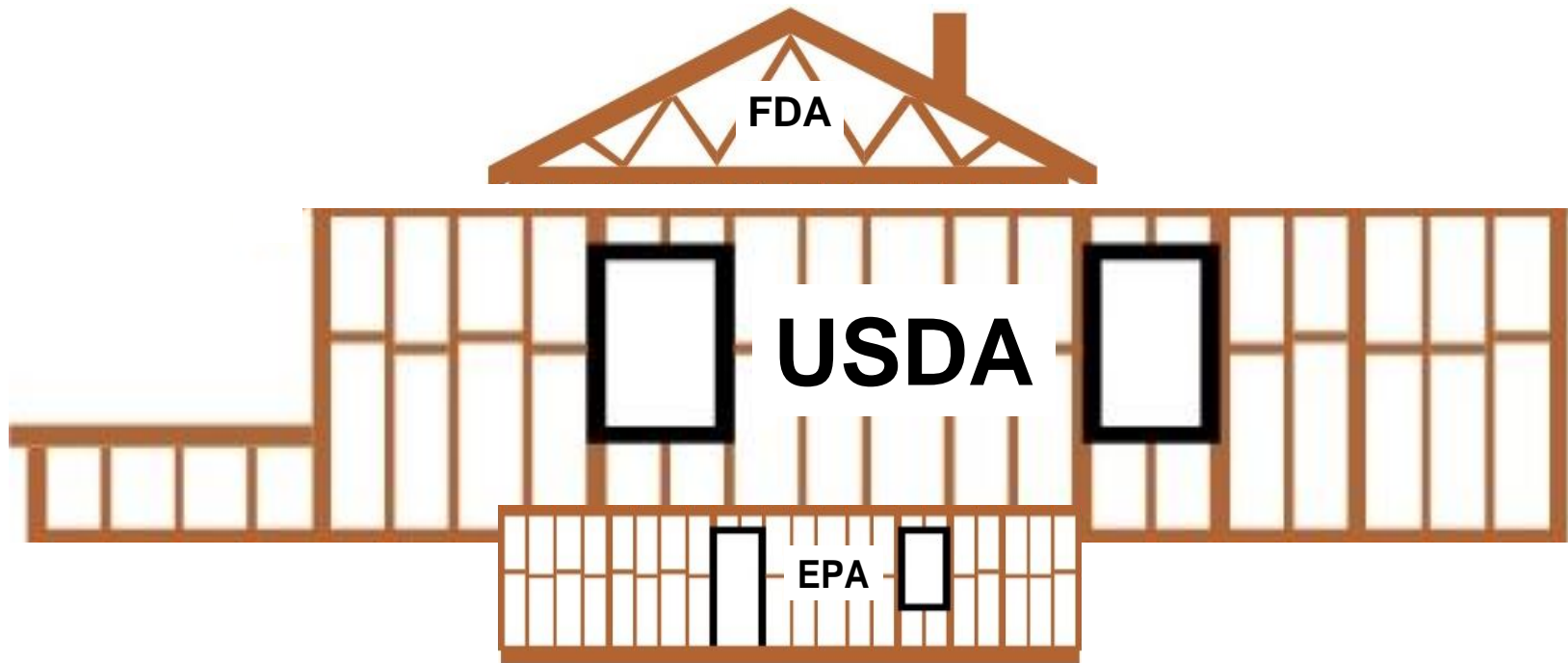
USDA



P
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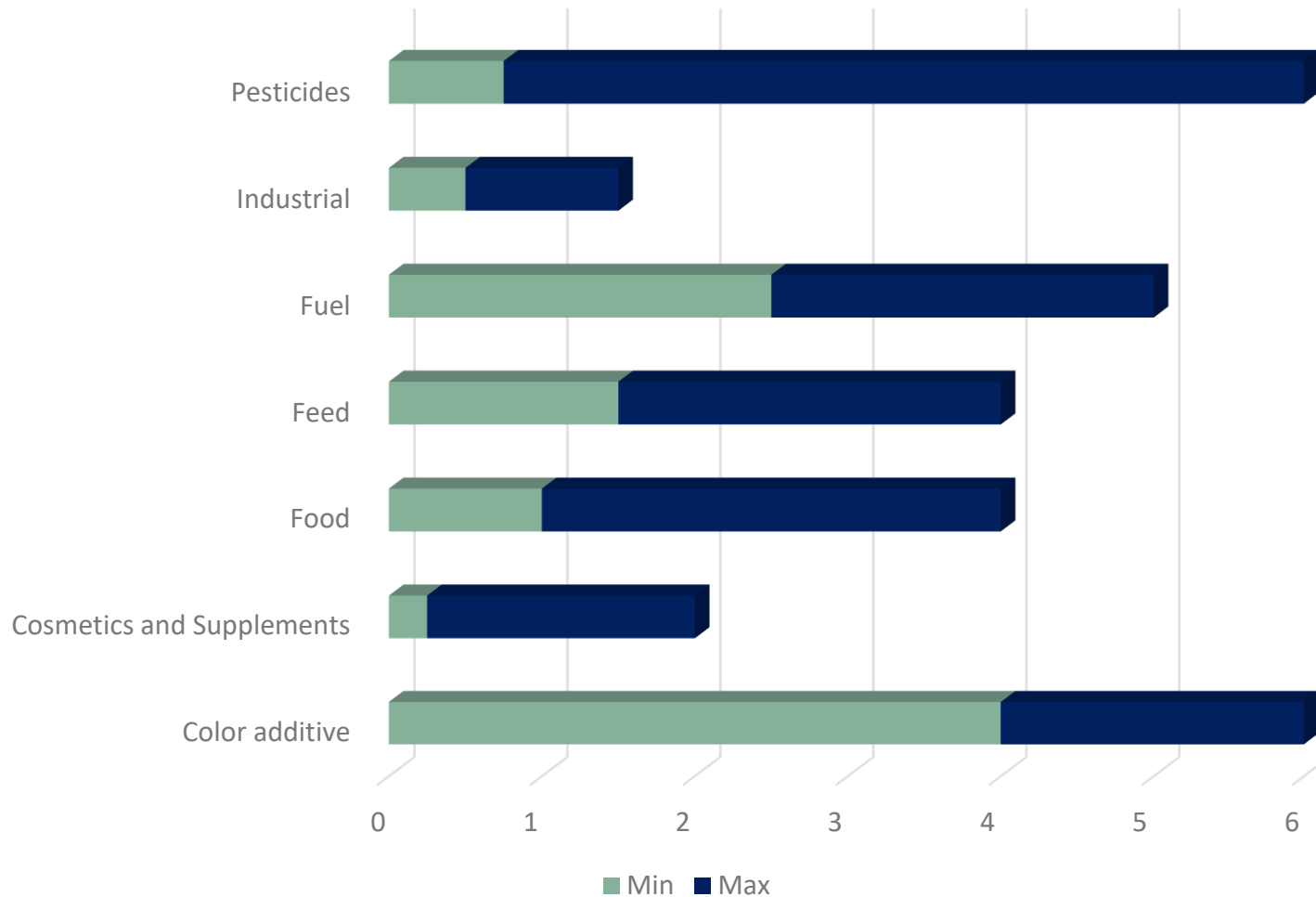
EPA TSCA, FIFRA, FDA

Coordinated Framework



<https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/update-coordinated-framework-regulation-biotechnology>

Establishing a Clearance (years)



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