



SPINS PI STUDIO ATTRIBUTE SPOTLIGHT

# Controlled Environment Agriculture (CEA)



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Product Intelligence Innovation



# What is **Controlled Environment Agriculture (CEA)**?

## WHAT IS CEA?

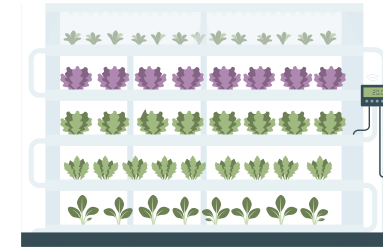
- A way to **optimize crop growth using less resources**
- Requires less space (the controlled environment), also reduces:
  - Water
  - Pesticides
  - Fertilizer
- Most common commercial models: Greenhouse and Vertical Farm

## GREENHOUSE:



- Well-established model, hundreds of years old
- Enclosed glass/plastic structures
- Regulate temperature/humidity of growing environment

## VERTICAL FARM:



- Innovation in recent decades
- Stacks plants for increased space efficiency
- Allows for complete regulation of crop growth space

# Why CEA Matters

Vertical Farms: higher yields, lower resource requirements, grown in a city near you



Advanced techniques ensure higher yields:

- Optimal lighting
- Hydro-, aqua-, aeroponic growing instead of soil
- Sensors to monitor nutrient levels



No outside risks = lower resource use, no need for:

- Pesticide or herbicide
- Disease control and monitoring
- No need for climate change adaptation



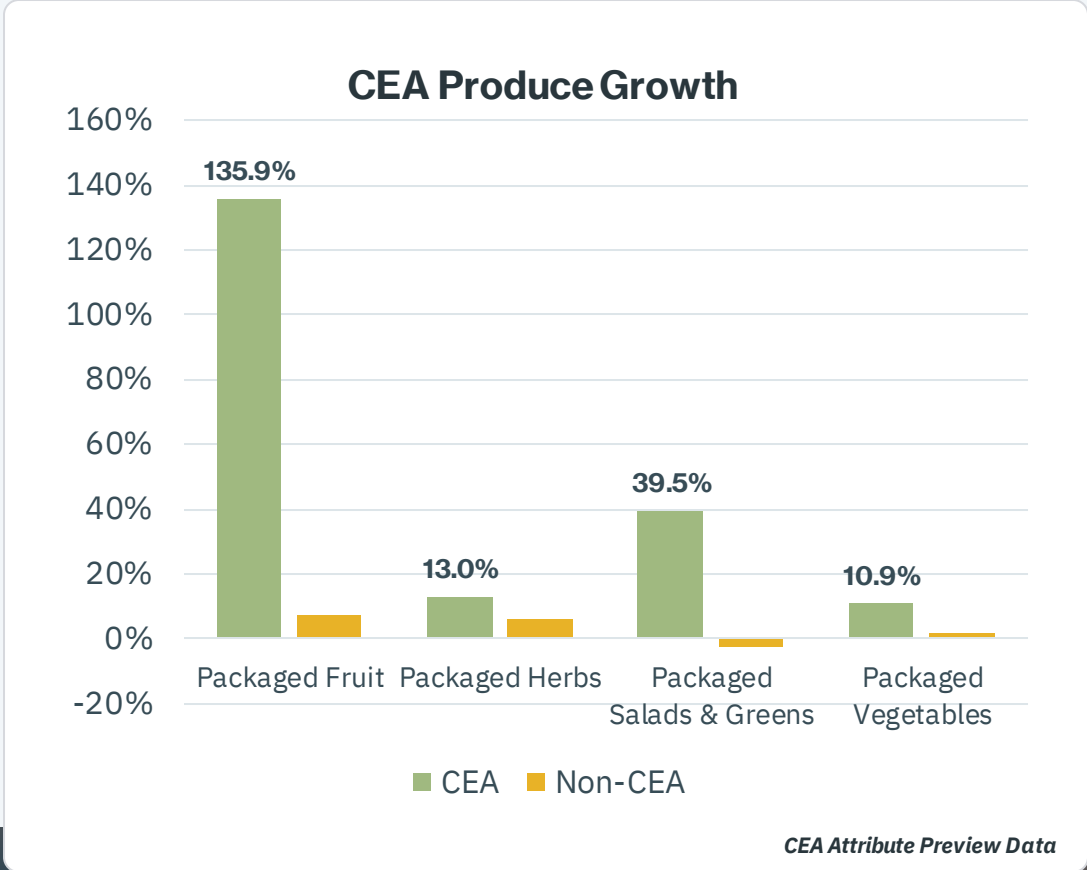
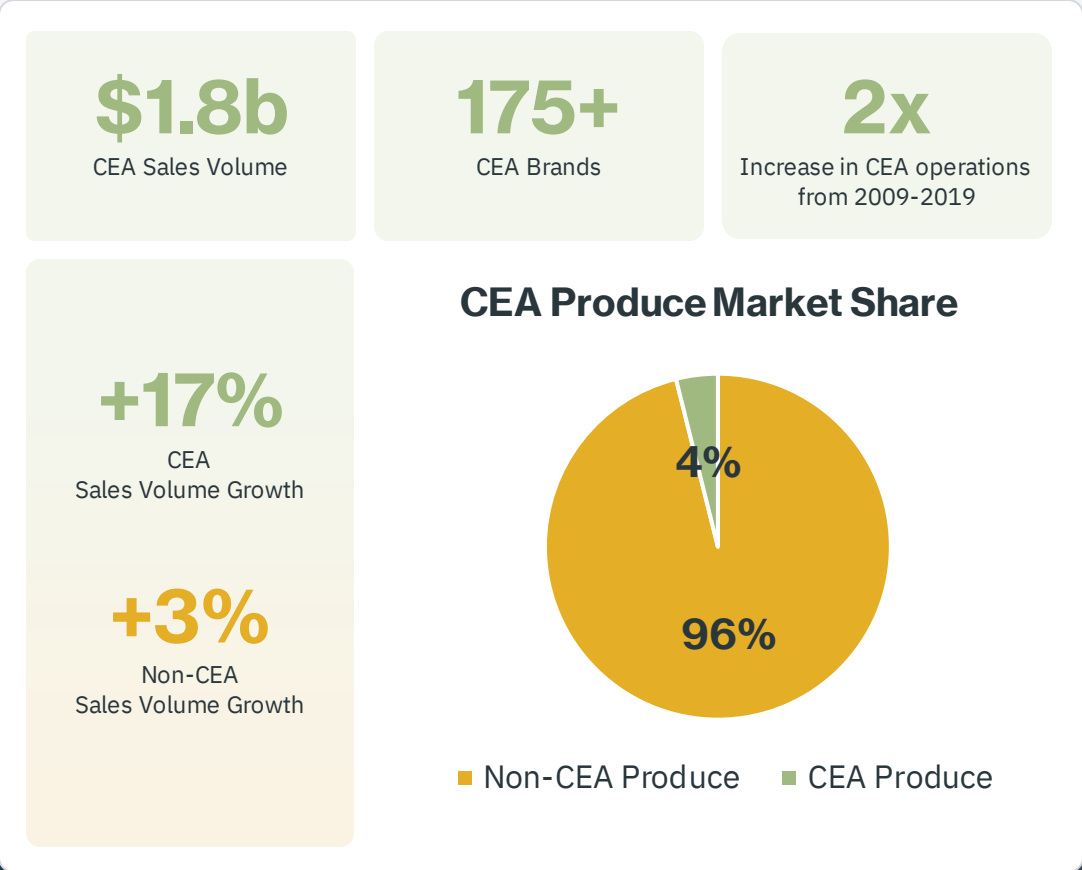
Space efficiency is operational efficiency:

- Can be built anywhere
- Food stays fresher, longer
- Lower emissions and transport costs

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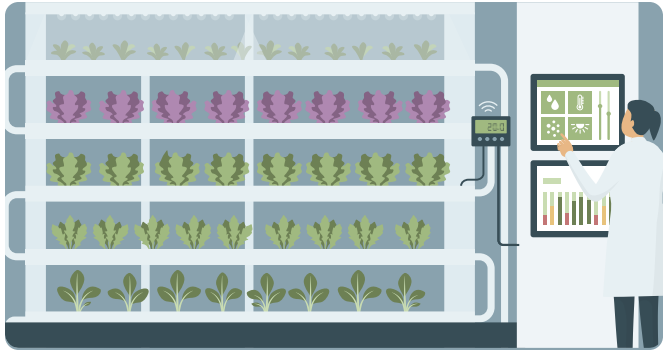
# CEA is Far Outpacing Conventional Growing Methods

Increased investment alongside agricultural technology innovation are driving explosive growth



# Key Takeaways

Keep an eye on the growth of CEA products



An old idea, **rapidly being improved** for the modern day



**Significantly more efficient** than outdoor growing methods



Showing **astronomical growth in-market** vs. traditional methods



THANK YOU FOR WATCHING

**Reach out to your rep  
or [growth@spins.com](mailto:growth@spins.com) with  
any questions**

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