

Quick Reference Guide

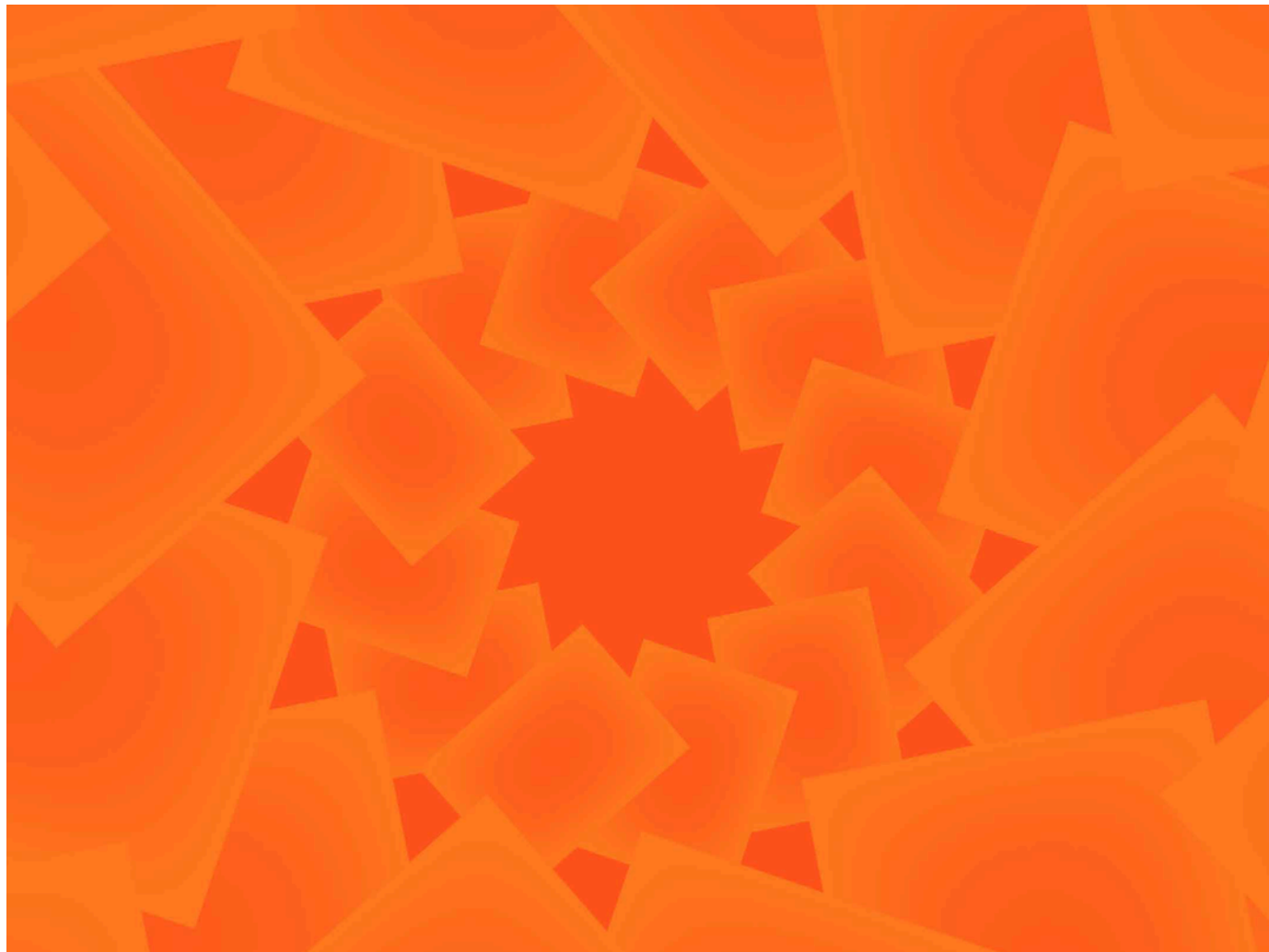
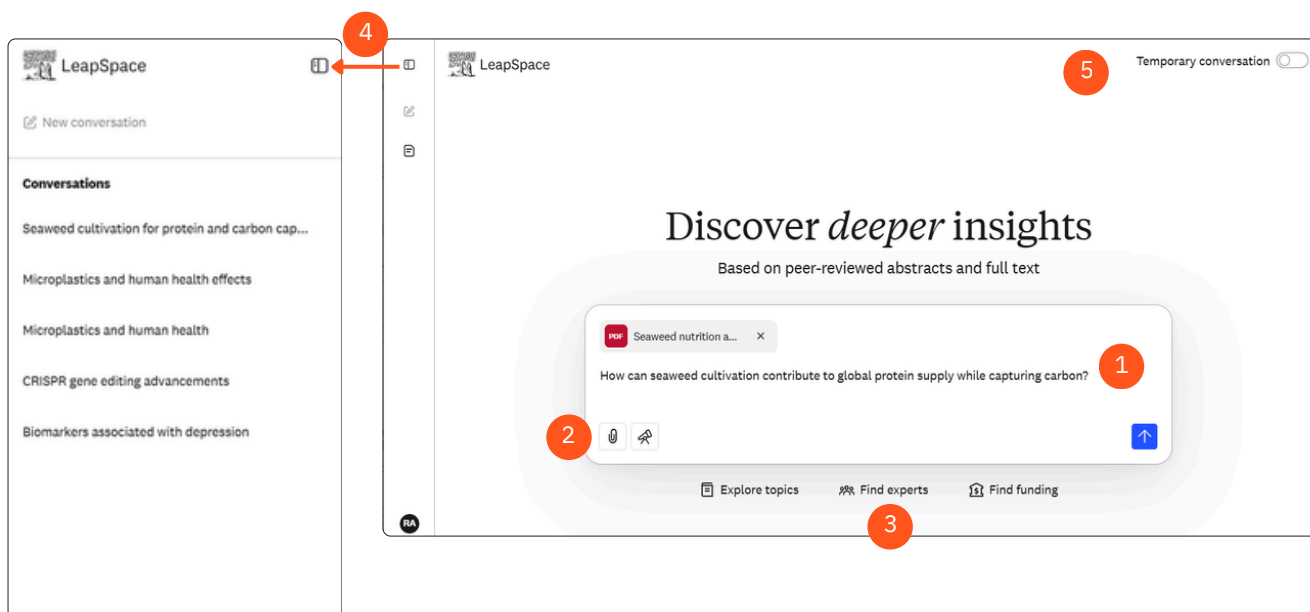


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1. Begin your search



1. **Formulate your query** — Simply ask your question or describe your request in a natural, conversational manner. The tool supports complex research, including interdisciplinary fields.
2. **Add your own files** — Upload up to five files per conversation and ground AI responses in both your work and the published literature. PDFs, Word documents and additional text formats are supported.
3. **Choose your search type** — The default search explores a topic, but you can also begin a search to find topic experts or funding.
4. **Revisit previous queries** — Conversational history provides an overview of your previous LeapSpace searches in a tab to the left side of the screen. There you will find up to 10 of your most recent searches listed, along with an option to load older history items – LeapSpace stores up to 200 conversations in total, with a maximum of 20 exchanges per conversation.
5. **Begin a temporary conversation** — Temporary conversation mode is designed for conducting exploratory, sensitive, or quick queries without retaining the chat history.

2. Analyzing search results

The first screenshot shows the 'Co-pilot steps' section with a list of steps. A red circle with the number 1 is placed over the first step, 'Creating a plan to respond to your query'.

The second screenshot shows the 'Seaweed cultivation for protein and carbon capture' topic overview. A red circle with the number 2 is placed over the 'How seaweed cultivation can boost global protein supply while capturing carbon' section. Below this, a 'Summary table' is displayed, which synthesizes content from relevant documents.

Domain	Key mechanisms	Evidence
Protein supply	• Wastewater/process-water cultivation boosts protein content and yields. • Seaweed can reach high protein levels and serve as alternative protein. • Bioeffluents and improved extraction increase protein recoverability.	1, 2, 3, 4, 5
Carbon capture	• Very high primary productivity draws down CO ₂ . • Carbon exported as POC or RDOC becomes long-term storage. • Carbon sink estimates for cultivated systems are large (depending on fate of biomass).	6, 7, 8, 9, 10, 11, 12
Integrated systems & co-benefits	• IMTA systems recycle nutrients and enhance both biomass and carbon capture. • Wastewater-based cultivation removes N/P while producing protein-rich biomass.	13, 14, 15, 16

The third screenshot shows the 'Ask a follow-up question' section with a red circle with the number 3.

- 1. Review the answer steps** — LeapSpace always displays the steps it takes to answer your question. This transparency builds trust and supports an essential skill in the age of AI - computational thinking or breaking a problem into parts and solving each step logically.
- 2. Examine the topic overview** — Review the structured topic overview to see the main points quickly. The Summary synthesizes content from relevant documents.
- 3. Ask a follow-up question** — You can use the follow-up feature to elaborate on specific points from the report, refocus your query to explore new perspectives, or zoom in on a particular area of interest.

3. Build evidence comparison tables across the literature

Microplastics and human health ▾

Confidence Level

High confidence that these themes represent the major open questions, as they appear consistently across numerous reviews that highlight methodological limitations, research gaps, and missing long-term human data.

If you'd like, I can also generate:

- a conceptual diagram of research gaps,
- a prioritized research agenda,
- or a more detailed breakdown of gaps by exposure route, organ system, or particle type.

Show all 33 references [Explore as a table](#) 1

Follow-up Suggestions

- ↳ What are the potential pathways through which microplastics may affect human health?
- ↳ How do microplastics interact with the human immune system?
- ↳ What are the long-term health implications of microplastic exposure in humans?

Ask a follow-up question

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Methods Results

Add column 2

Column name

Add column name 0/50

Describe what you want this column to do

Add description 0/140

Cancel Create column

This is a temporary table and is not being saved

Leaving this page will clear it from your session, to retain a copy, first please export.

Export CSV

abstract Methods Results

Add paper(s)

Enter DOI, PII or EID (add multiple separated by comma)

<https://doi.org/10.1016/j.asr.2025.03.022>, 90014579324001234, 2+2.0-85123456789

Cancel Add paper(s) +

This is a temporary table and is not being saved

Leaving this page will clear it from your session, to retain a copy, first please export.

Export CSV

1. **Extract evidence into a structured view** — Click "Explore as a table" to lift the underlying references into a comparison view — cited papers become rows, key evidence becomes columns.
2. **Shape the table around your question** — Add columns, refine the dimensions you want to compare, or search across the papers to surface the findings that matter for your synthesis.

4. Explore the Reference details pane and verify claims

The image shows two side-by-side panels from the LeapSpace interface. The left panel, titled 'Seaweed cultivation for protein and carbon capture', contains a 'Summary table' with three rows: 'Protein supply', 'Carbon capture', and 'Integrated systems & co-benefits'. Each row lists key mechanisms and associated evidence numbers. An orange arrow points from the evidence number '1' in the 'Protein supply' row to the 'Reference details' pane on the right. The right panel, titled 'Reference details', shows bibliographic information for a chapter titled 'Protein from seaweed aquaculture'. It includes a 'Trust Card' with a 'Neutral' rating and a paragraph of text. A red circle '1' is next to the citation count '2 citations 1348 FWC'. A red circle '2' is next to the 'Scopus abstract' link. A red circle '3' is next to the 'Trust Card' rating. A red circle '4' is next to the 'Abstract' link.

Domain	Key mechanisms	Evidence
Protein supply	• Wastewater/process-water cultivation boosts protein content and yields. • Seaweed can reach high protein levels and serve as alternative protein. • Biofertilizers and improved extraction increase protein recoverability.	1, 2, 3, 4
Carbon capture	• Very high primary productivity draws down CO ₂ . • Carbon exported as POC or RDOC becomes long term storage. • Carbon sink estimates for cultivated systems are large (depending on fate of biomass).	5, 6, 7, 8, 9, 10, 11, 12
Integrated systems & co-benefits	• IMTA systems recycle nutrients and enhance both biomass and carbon capture. • Wastewater-based cultivation removes N/P while producing protein-rich biomass.	13, 14, 15

Verify claims and explore sources — Clicking on a citation number will open the Reference details pane, which displays:

1. **Bibliographic details**
2. **The option to export the reference**
3. **Trust Card** — shows how closely a claim aligns with its cited source, answering: is this claim actually supported by the source being cited?
4. **The Passage from the source that supports the claim**

5. Validate insights across the research landscape

The screenshot displays the LeapSpace interface. On the left, a summary table titled 'Seaweed cultivation for protein and carbon capture' lists key mechanisms and evidence. On the right, the 'Claim Radar' panel shows a 'Processing steps' indicator (1), a 'Identified claim', and a '25 related documents' section with a bar chart showing 17 support, 6 mixed, and 2 contradict. An orange arrow points from the 'Protein supply' claim in the summary table to the Claim Radar panel.

Domain	Key mechanisms	Evidence
Protein supply	Wastewater/process-water cultivation boosts protein content and yields. Seaweed can reach high protein levels and serve as alternative protein. Biofertilizers and improved extraction increase protein recoverability.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
Carbon capture	Very high primary productivity draws down CO ₂ . Carbon exported as POC or RDOC becomes long-term storage. Carbon sink estimates for cultivated systems are large (depending on fate of biomass).	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
Integrated systems & co-benefits	IMTA systems recycle nutrients and enhance both biomass and carbon capture. Wastewater-based cultivation removes N/P while producing protein-rich biomass.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

Claim Radar

Processing steps > 1

Identified claim
Wastewater/process-water cultivation boosts protein content and yields.

25 related documents

Support 17
Mixed 6
Contradict 2

8 key insights
Claim asserts wastewater/process-water cultivation raises protein content and yields in biomass.
[Show more](#)

Do you find Claim Radar helpful? [Yes](#) [No](#)

17 support 6 mixed 2 contradict

Cultivation in wastewater increases growth and nitrogen content of seaweeds: A meta-analysis
Stedje, K.; Paulik, H.; Toth, G.B.
Algal Research 71 • Journal • 2022
18 citations
[Show abstract](#) [View at publisher](#) [View Scopus document](#)

Cultivation of Ulva fenestrata using herring production process waters increases biomass yield and protein content
Stedje, K.; Gustavsson, O.; Kollander, B.; Toth, G.B.; Paulik, H.
Frontiers in Marine Science 71 • Journal • 2022
17 citations
[Show abstract](#) [View at publisher](#) [View Scopus document](#)

1. **Check claims against the broader research** — Claim Radar validates AI-generated insights against the broader research landscape. It identifies verifiable claims within a response and tests them against up to 40 of the most relevant sources across 100M+ Scopus-indexed papers - showing whether evidence supports, contradicts, or presents mixed findings, with clear visual summaries and an evidence trail. It answers: “What does the broader research say about this claim?”

6. Find experts and potential collaborators

Summary Table: Top Experts by Domain

Domain	Key Experts	Why They're Relevant	Citations
Seaweed Cultivation & Aquaculture	Ni P.D. Kusuma, Pieter Amalo, Rifqah Pratiwi, Adrian K. Macleod	Work on <i>Kappaphycus</i> and <i>Eucheuma</i> cultivation, growth optimization, and sustainable farm design	48 49 50 51
Seaweed Proteins & Extraction Technologies	Diane Purcell, João P. Trigo, Kristoffer Stedt, Jayani Samarathunga, Maria Hayes	Lead research on seaweed protein extraction, functional foods, biochemical profiling	52 53 54 55 56
Macroalgal Carbon Capture & Blue Carbon Modeling	Si Chen, Xiuting Feng, Ruimin Zhang, Ellen Ould, Bin Li	Produce high-impact work on DOC/POC pathways, carbon accounting frameworks, and macroalgal carbon fate	57 58 59 60 61

1. Experts in Seaweed Cultivation and Applied Aquaculture

Ni P.D. Kusuma

Focus on *Kappaphycus* and *Sargassum* cultivation performance, biochemical composition, and bioactivity [48](#).

Pieter Amalo

Ask a follow-up question

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1. **Identify topic experts and potential collaborators:** Identify key people working in the field by asking LeapSpace—using the ‘Ask a follow-up question’ feature—to see the top experts or to suggest potential collaborators

Seaweed cultivation for protein and carbon capture

Experts in Seaweed Cultivation and Marine Protein

Leading Experts on Seaweed Cultivation, Seaweed-Based Protein, and Macroalgal Carbon Capture

Below is a structured synthesis of the most relevant experts identified from the retrieved author data. These individuals have **substantial publication output, citation impact, or specialized expertise** in seaweed cultivation, marine protein, macroalgal carbon sequestration, or carbon-cycle modeling.

Summary Table: Top Experts by Domain

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Seaweed Cultivation & Aquaculture	Ni P.D. Kusuma, Pieter Amalo, Rifqah Pratiwi, Adrian K. Macleod	Work on <i>Kappaphycus</i> and <i>Eucheuma</i> cultivation, growth optimization, and sustainable farm design	48 49 50 51
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Author preview

Adrian K. Macleod

Matching documents: 12, h-index: 11, Citations: 872

[View profile](#)

Matching documents

Production of acetone, butanol, and ethanol by fermentation of *Saccharina latissima*: Cultivation, enzymatic hydrolysis, inhibitor removal, and fermentation
Schulze-Jena, A.; Voon, B.C.; Macleod, A.K.A.; Lloret-Contreras, A.M.; Boon, M.A. Algal Research 71 • Journal • 2022 32 citations

Ensilage of sugar kelp biomass for biorefining
Larsen, S.U.; Ma, N.; Hsu, X.; Bak, U.G.; Bjerre, A.B. Biomass and Bioenergy 71 • Journal • 2021 11 citations

Is social license to operate relevant for seaweed cultivation in Europe?
Billing, S.-L.; Bostaan, J.; Test, B.; Macleod, A. Aquaculture 71 • Journal • 2021 42 citations

Effects of seeding method, timing and site selection on the production and quality of sugar kelp, *Saccharina latissima*: A Danish case study
Bodenskov, T.; Nielsen, M.M.; Baumann, M.B.; Sloth, J.J.; Bruun, A.

2. **Review the list of Active contributors** — LeapSpace generates a list of people who are working in your specific topic.
3. **Dive into expert insights** — You can deep-dive into any person on the list to review their experience and past work. This data is sourced from Elsevier's Scopus database.

7. Explore funding opportunities

How can seaweed cultivation contribute to global protein supply while capturing carbon?

Copilot steps >

Seaweed cultivation for protein and carbon capture

How seaweed cultivation can boost global protein supply while capturing carbon

Seaweed cultivation contributes to **protein production** and **carbon capture** through well-documented mechanisms:

1. **High-protein biomass generation**, especially when nutrients are optimized.
2. **Substantial carbon fixation during growth**, with some portion stored long-term as particulate or dissolved organic carbon.
3. **Ecosystem and climate co-benefits** such as nutrient removal, reduced emissions, and low land/water requirements.

Summary table

Domain	Key mechanisms	Evidence
Protein supply	• Wastewater/process-water cultivation boosts protein content and yields. • Seaweed can reach high protein levels and serve as alternative protein. • Biorefineries and improved extraction increase protein recoverability.	1 , 2 , 3 , 4 , 5
Carbon capture	• Very high primary productivity draws down CO ₂ . • Carbon exported as POC or RDOC becomes long-term storage. • Carbon sink estimates for cultivated systems are large (depending on fate of biomass).	6 , 7 , 8 , 9 , 10 , 11 , 12
Integrated systems & co-benefits	• IMTA systems recycle nutrients and enhance both biomass and carbon capture. • Wastewater-based cultivation removes N/P while producing protein-rich biomass.	13 , 14 , 15

What funding opportunities exist in the U.S. for this topic?

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1. **Inquire about funding** — To find out who is funding research in this topic, use the 'Ask a follow-up question' feature.

Seaweed cultivation for protein and carbon capture

Funding opportunities for seaweed cultivation and carbon capture

U.S. Funding Opportunities Relevant to Seaweed Cultivation, Marine Protein, and Ocean-Based Carbon Capture

Below is a **focused synthesis** of the funding opportunities from your search that meaningfully support work on seaweed aquaculture, blue carbon, marine biomass, sustainable marine protein, or enabling technologies for carbon removal and aquaculture systems. Only opportunities with **direct or enabling relevance** are included.

Summary Table: Most Relevant Opportunities

Opportunity	Funder	Amount	Why It's Relevant	Citations
VentureWell Ocean Enterprise Accelerator	VentureWell	\$140,000	Supports ocean-data tech and innovations; strong fit for MRV, carbon accounting, seaweed-farm monitoring	29 30 31
NIST: Water Quality & Health in Aquaculture	NIST	\$85,764	Directly supports aquaculture R&D including nutrient dynamics important to seaweed and IMTA	32 33
NOAA: Population Assessment Modeling for Marine Aquaculture	NOAA	Not listed	Supports ecological modeling for aquaculture; relevant for seaweed-ecosystem interactions	34
BARD Aquaculture & Desert Farming Program	BARD (US-Israel)	\$600,000	Funds algae, seafood, and aquaculture protein research; requires US-Israel partnership	40 42
NRL Seawater Carbon Capture & Hydrogen Production	U.S. Naval Research Lab	\$104,401	Strong thematic link to ocean carbon pathways; enabling carbon-capture tech	43
NOAA: Inter-Ocean	NOAA	Not listed	Supports foundational	39

Who are the experts on this topic?

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Funding preview

Funding Institutional Funding opportunity

Measurement Science to Promote Water Quality and Health in Aquaculture

National Institute of Standards and Technology USA
mary.bedner@nist.gov

Awarded amount	Type
\$85764 USD	Individual fellowships

[Apply for funding](#)

Summary Eligibility details

NIST, in collaboration with the Institute of Marine and Environmental Technology (IMET), is seeking a post-doctoral scientist to participate in measurement science research to support the development of sustainable aquaculture in the US. The research will be accomplished through the complementary capabilities or both organizations including advanced analytical capabilities at NIST (e.g., LC-HRMS and LC-MS/MS, GC-MS) and a state-of-the-art aquaculture research center at IMET. Potential research areas of interest include the development of sensitive and selective methods for determining organic contaminants, such as hormones, metabolites, and feed by-products in recirculating aquaculture systems (RAS); evaluation of passive sampling devices for mimicking the bioaccumulation of targeted organic contaminants in RAS; study of antibiotics used as food supplements in aquaculture, particularly transport through the water, metabolic by-products, and development of novel treatment approaches; development of analytical capabilities for off-flavor detection in water and fish tissue, including the development and evaluation of novel technology for off-flavor removal; measurement approaches for understanding contaminant remediation by oysters and other filter feeders in marine aquaculture; and determination of the impact of current-use pesticides on aquaculture animals and water.

Keywords:

2. **Review funding sources** — You can see a list of the major funding sources for this area of research.
3. **Identify specific funding opportunities** — You can drill down into specific funding opportunities that are behind each funder, which may be a source of funding for you.

8. Create a report of your findings

Experts in Seaweed Cultivation and Marine Protein

Leading Experts on Seaweed Cultivation, Seaweed-Based Protein, and Macroalgal Carbon Capture

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Ni P.D. Kusuma

Focus on *Kappaphycus* and *Sargassum* cultivation performance, biochemical composition, and bioactivity 48.

Pieter Amalo

Can you make a short report for my team about this and include diagrams? 1

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1. **Generate a report** — Use the 'Ask a follow-up question' feature to create a report to share key findings with your team.

Seaweed cultivation for protein and carbon capture

3. Diagram: Protein & Carbon Pathways in Seaweed Cultivation

```

graph TD
    Nutrients --> Growth
    Growth --> Biomass
    Biomass --> Protein
    Biomass --> Carbon fixation
    Carbon fixation --> POC export
    Carbon fixation --> RDOC formation
    POC export --> Long term storage
    RDOC formation --> Long term storage
  
```

Figure 1: Seaweed nutrient uptake drives biomass formation, protein yield, and carbon pathways 1 3

Matching documents

Production of acetone, butanol, and ethanol by fermentation of *Saccharina latissima*: Cultivation, enzymatic hydrolysis, inhibitor removal, and fermentation
Schultze-Jena, A. ; Vroon, B.C. ; Macleod, A.K.A. ; López-Contreras, A.M. ; Boon, M.A.
Algal Research 71 • Journal • 2022
32 citations

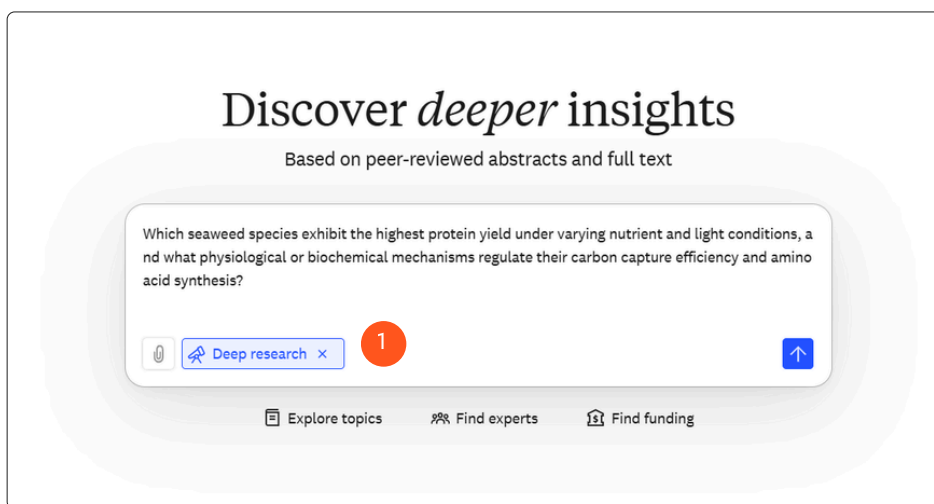
Ensilaging of sugar kelp biomass for biorefining
Larsen, S.U. ; Ma, N. ; Hou, X. ; Bak, U.G. ; Bjerre, A.-B.
Biomass and Bioenergy 71 • Journal • 2021
11 citations

Is social license to operate relevant for seaweed cultivation in Europe?
Billing, S.-L. ; Rostan, J. ; Tett, P. ; Macleod, A.
Aquaculture 71 • Journal • 2021
42 citations

Effects of seeding method, timing and site selection on the production and quality of sugar kelp, *Saccharina latissima*: A Danish case study
Boderskov, T. ; Nielsen, M.M. ; Rasmussen, M.B. ; Sloth, J.J. ; Bruhn, A.

2. **Analyze the report** — LeapSpace uses the previous turns as context and generates a structured report, including a diagram. It also pulls in the associated references from the earlier steps — combining everything found in one place.

9. Generate a Deep Research Report



- 1. Develop a comprehensive, well-reasoned report** — Deep research takes your exploration a step further—producing comprehensive, well-reasoned reports in minutes. When you pose a question, Deep research goes beyond summarizing existing information—it develops a detailed research plan, conducts extensive searches across the curated literature in LeapSpace, and refines its approach as new insights emerge.

Seaweed species protein yield and mechanisms

Which seaweed species exhibit the highest protein yield under varying nutrient and light conditions, and what physiological or biochemical mechanisms regulate their carbon capture efficiency and amino acid synthesis?

Show deep research steps - Processed for 1m 57s

2 Deep research report View Deep research response as PDF

This report may contain inaccuracies. Please verify the information independently.

Protein Yield, Carbon Capture, and Amino Acid Synthesis in High-Protein Seaweeds: Species Comparisons and Environmental Regulation

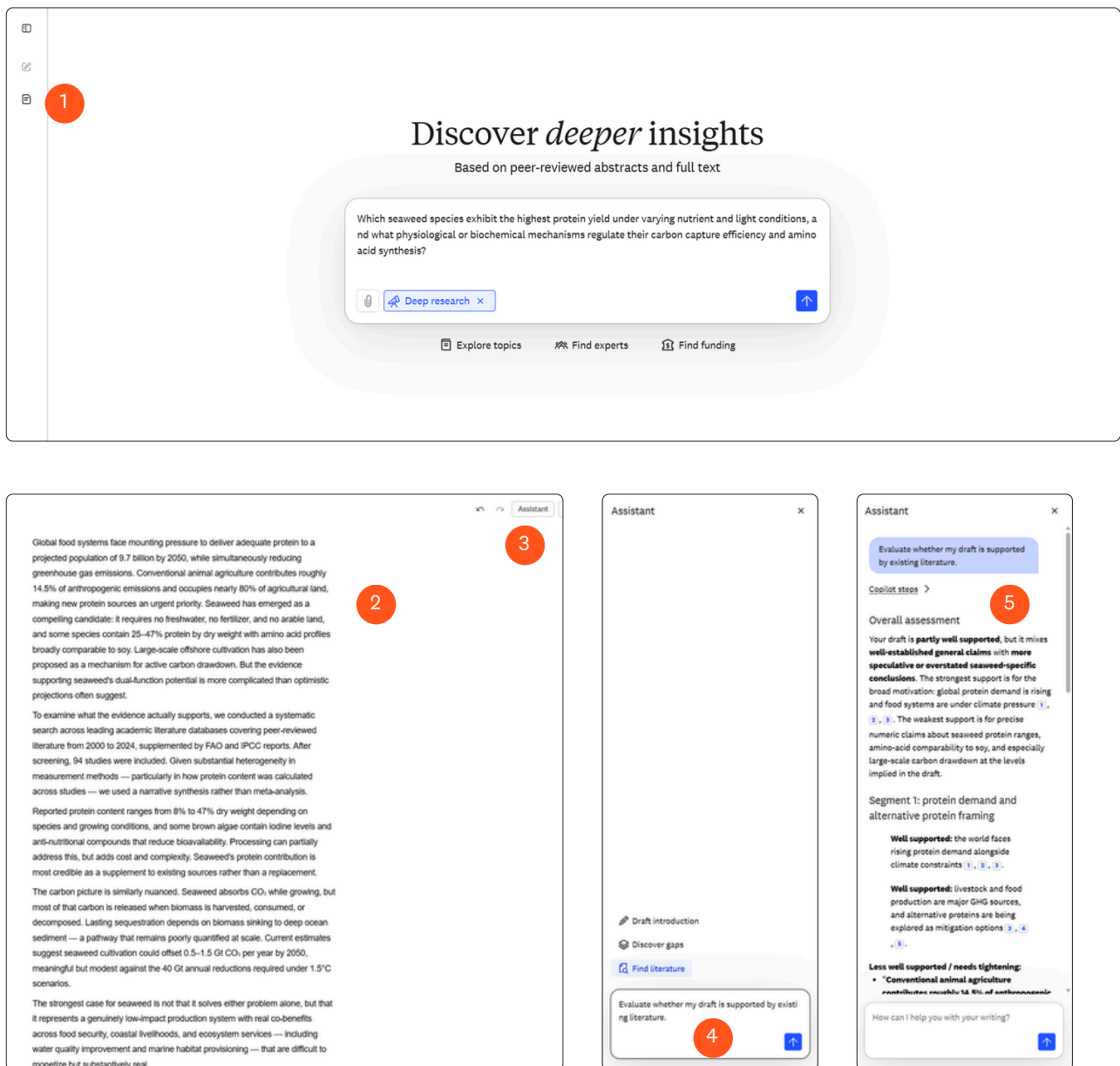
Quick Reference

Key Findings Table

Species/Group	Max Protein Yield (% DW)	Optimal Conditions	Key Mechanisms for Carbon Capture & Amino Acid Synthesis	Notable References
Ulva fasciata	24.5	High nutrients, high light	Robust CCMs, boundary-layer acidification, GS/GOGAT, PII/NAGK	1 2 3
Ulva prolifera	Highest in Ulva group	400 $\mu\text{mol m}^{-2} \text{s}^{-1}$, 25°C, high N	CCM flexibility, strong N assimilation, GS/GOGAT	4 5
Porphyra/Pyropia spp.	30–47	Winter/spring, high nutrients	Efficient Rubisco, GS/GOGAT, PII/NAGK	6 7

- 2. Analyze the report overview** — Quickly review a structured, fully referenced summary—including key findings, a direct answer to the query, study scope, assumptions and limitations, synthesis and discussion, future research directions, conclusions, and recommended reading.

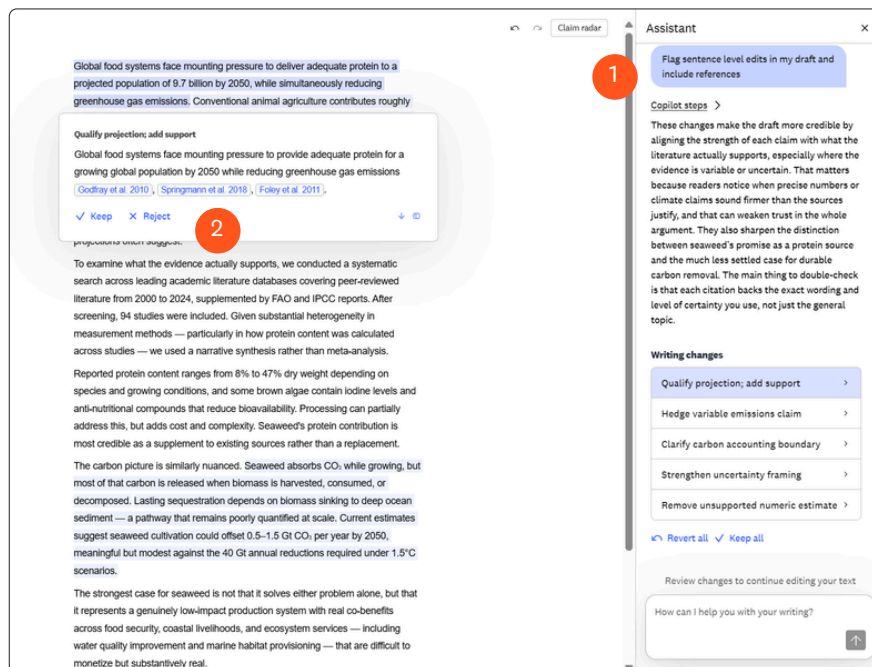
10. Draft with Writing Coach



Writing Coach is a drafting tool built for researchers — a secure and private conversational workspace to contextualize reasoning, strengthen arguments, and identify gaps.

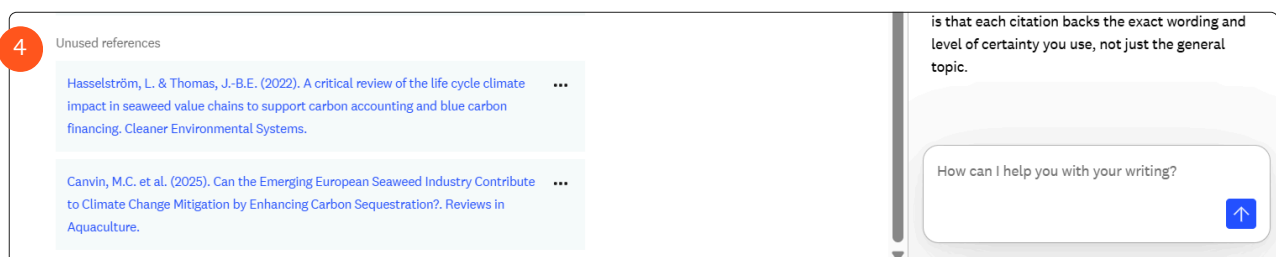
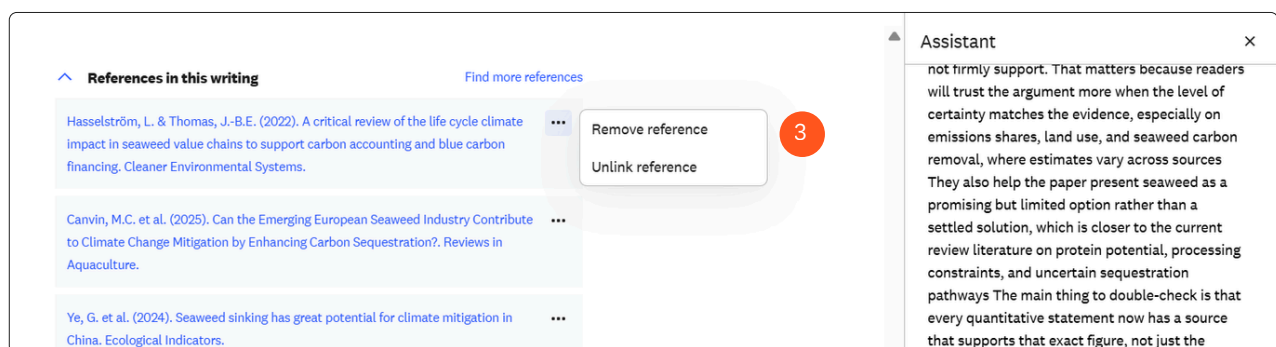
- 1. Open Writing Coach** — Access Writing Coach from the LeapSpace home screen.
- 2. Add your draft** — Type or paste your draft into the document editor.
- 3. Open the Assistant panel** — Select the 'Assistant' icon to pop out a conversation panel on the right.
- 4. Start a conversation** — Begin a conversation; for example, contextualize evidence against the wider literature.
- 5. Strengthen and refine** — Strengthen arguments and surface gaps through evidence-based, back-and-forth dialogue.

11. Refining drafts through dialogue



1. Move between dialogue and edits — You can keep refining and shaping your draft as the conversation continues. For instance, by asking for sentence level edits and references, the tool understands you are requesting a change to the document and generates an inline suggestion — making it easy to move smoothly between discussion and structured writing.

2. You stay in control — Writing Coach does not change your work automatically. You decide what to keep or reject as you develop your draft.



3. Manage references inline — You can see any added references listed at the bottom of your draft and you can always choose to remove or unlink a reference if it is no longer relevant.

4. Full traceability — Removed references remain listed below for full traceability.

12. Verifying the claims in your draft

Global food systems face mounting pressure to provide adequate protein for a growing global population by 2050 while reducing greenhouse gas emissions (Godfray et al. 2010, Springmann et al. 2018, Foley et al. 2011). Conventional animal agriculture is widely cited as a major contributor to food-related emissions, but precise estimates vary across studies; more broadly, food systems account for a substantial share of global anthropogenic greenhouse gas emissions, and shifts away from animal-source foods can reduce those impacts (Poore & Nemecek 2018, Tilman & Clark 2014, Crippa et al. 2021, Vermeulen et al. 2012, Zhao et al. 2026). Seaweed has emerged as a compelling candidate: it requires no freshwater, no fertilizer, and no arable land, and some species contain 25–47% protein by dry weight with amino acid profiles broadly comparable to soy. Large-scale offshore cultivation has also been proposed as a mechanism for active carbon drawdown. But the evidence supporting seaweed's dual-function potential is more complicated than optimistic projections often suggest.

To examine what the evidence actually supports, we conducted a systematic search across leading academic literature databases covering peer-reviewed literature from 2000 to 2024, supplemented by FAO and IPCC reports. After screening, 94 studies were included. Given substantial heterogeneity in measurement methods — particularly in how protein content was calculated across studies — we used a narrative synthesis rather than meta-analysis.

Reported protein content ranges from 8% to 47% dry weight depending on species and growing conditions, and some brown algae contain iodine levels and anti-nutritional compounds that reduce bioavailability. Processing can partially

Assistant

not firmly support. That matters because readers will trust the argument more when the level of certainty matches the evidence, especially on emissions shares, land use, and seaweed carbon removal, where estimates vary across sources. They also help the paper present seaweed as a promising but limited option rather than a settled solution, which is closer to the current review literature on protein potential, processing constraints, and uncertain sequestration pathways. The main thing to double-check is that every quantitative statement now has a source that supports that exact figure, not just the general idea.

Flag sentence level edits in my draft and include references

Copilot steps >

These changes make the draft more credible by aligning the strength of each claim with what the literature actually supports, especially where the evidence is variable or uncertain. That matters because readers notice when precise numbers or climate claims sound firmer than the sources justify, and that can weaken trust in the whole argument. They also sharpen the distinction

Claim Radar

Select a claim to explore the evidence and research connected to it. Some matches may be imperfect.

Update claims

"Conventional animal agriculture contributes roughly 14.5% of anthropogenic emissions and occupies nearly 80% of agricultural land."

"Seaweed generally requires little or no arable land and freshwater relative to terrestrial protein crops."

"Some species reach high protein concentrations on a dry-weight basis."

"Reported protein content ranges from 8% to 47% dry weight depending on species and growing conditions."

"Some species also present iodine burdens, phenolic compounds, and digestibility constraints that can reduce usable protein, even when amino acid profiles appear favorable"

"Processing can partially address this, but adds cost and complexity."

"Seaweed absorbs CO₂ while growing"

"much of that carbon is subsequently returned to the system when biomass is harvested, consumed, decomposed, or converted to bioenergy"

Claim evidence

Processing steps >

Identified claim

Conventional animal agriculture contributes roughly 14.5% of anthropogenic emissions and occupies nearly 80% of agricultural land.

46 related documents

Support 31

Mixed 14

Contradict 1

4 key insights

- Provided abstracts mostly place animal agriculture near the claim's emissions range and land-use dominance.

Show more

Do you find Claim Radar helpful?

Yes No

31 support 14 mixed 1 contradict

Pre- and post-production processes increasingly dominate greenhouse gas emissions from agri-food systems

Tubiello, F.N. 等; Karl, K. 等; Flammini, A. 等; Confalonieri, U. 等; Toller, M. 等

- 1. Surface claims from your draft** — Clicking on the Claim Radar icon opens a panel listing the claims pulled from your draft.
- 2. Check claims against the literature** — Claim Radar shows whether a claim is supported or contested in the wider literature.
- 3. Evidence-based validation** — Selecting a claim searches up to 40 relevant sources across 100M+ Scopus-indexed papers, showing whether evidence supports, contradicts, or presents mixed findings, with a clear evidence trail.

13. Check your claims without leaving Microsoft Word

The add-in is available free-of-charge to institutions and individuals that subscribe to LeapSpace.

[See here for more details.](#)

1. Highlight a portion of text in your Word document.

2. Right click the highlighted text and select the Check for Claims option

3. You can also use the “Check for Claims” option under the Leap Space tab in the menu ribbon

4. Claim Radar will open and extract claims from the selected text, listing them in the LeapSpace pane

5. Pick a claim to test it against the literature. The add-in will process the claim and present you with evidence. Sources are sorted into what supports the claim, what contradicts it, and what's mixed, with key insights

