

**SeaWheat**  
COST Action CA20106

TOMORROW'S 'WHEAT OF THE SEA: ULVA, A MODEL FOR AN INNOVATIVE MARICULTURE



## Deliverables of each Working Group

### **WG 1: Ulva biology**

*Report on the following topics:*

- a. *Ulva* spp. systematics and their identification; clarifying inconsistencies afflicting traditional taxonomy.
- b. *Ulva* microbiome, interactions with bacteria on and in the seaweed fronds, affecting *Ulva*'s growth and development.
- c. Environmental and seasonal environmental factors affecting *Ulva* strains' growth and productivity (nutrients, light, temperature, hydrodynamics, green tide events, etc.).

### **WG 2: Ulva in aquaculture**

*Report on the following topics:*

- a. Guideline of engineering concepts for large-scale cultivation in land and sea-based facilities.
- b. Cultivation protocol of spore collection and *Ulva* preservation, seeding, cultivation and harvesting in land and sea-based facilities.
- c. The potential impediments (biological, technological, economic and political) for *Ulva* biomass production.

### **WG 3: Ulva as food and feed**

*Report on the following topics:*

- a. *Ulva* for human consumption, animal feed and use of inedible fractions as a source of biomaterials (e.g. nutraceutical).
- b. Applications and nutritional values of *Ulva* for human and animal food, including food processing.
- c. A list of inedible fractions of *Ulva* as a source of biomaterials.

### **WG 4: Bioactive products**

*Report on the following topics:*

- a. Extractable substances from *Ulva*, utilised as food additives, in cosmetics and for various other purposes.
- b. The potential of *Ulva* strains extracts as natural antioxidants, antibacterial and antiviral activities and isolation of bioactive molecules.

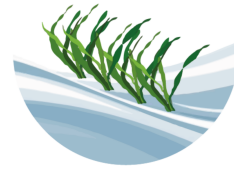
### **WG 5: Ecosystem services**

*Report on the following topics:*

- a. Providing and supporting ecosystem services of *Ulva* spp., nutrient and carbon removal and recycling.
- b. Regulating services, the effect of biomass culture on reducing climate gas emissions and mitigating ocean acidification.
- c. An economic cost-benefit analysis of biomass production and harvesting of *Ulva* spp. for ecosystem services.

### **WG 6: Social, legal and regulatory aspects**

*Report on the following topics:*



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- a. Updated recommendations for policies of official bodies and NGOs about seaweed culture regarding environmental issues and conflicts of interest (e.g., on land space).
- b. Government regulations on seaweed mass production and its marketing as food, feed and valuable secondary metabolites.
- c. The impact of *Ulva* cultivation on various communities concerning social aspects.
- d. *Ulva* as food and feed, nutrition, job creation, community income and education.

### **WG 7: Project coordination and dissemination**

D7.1 Reports by the MC, WG

D7.2 Six workshops

D7.3 Five Training Schools (TS)

D7.4 Eight STSMs per year

D7.5 Two conferences (open to the public)

D7.6 Publications of a number of articles in scientific journals and 'grey literature' on sustainable aquaculture on seaweeds

D7.7 Creation of a web page and social network accounts (FB, Instagram, ResearchGate and Twitter).

D7.8 Two public events

D7.9 A final report titled 'ULVA – Tomorrow's Wheat of the Sea' will be the ultimate publication, including all the reviews, protocols and reports which should become 'gospel' for students, scientists, producers of *Ulva*, and other seaweed stakeholders.