

AgriLemma – Serious game to engage WATERAGRI stakeholders



WATERAGRI

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WATERAGRI

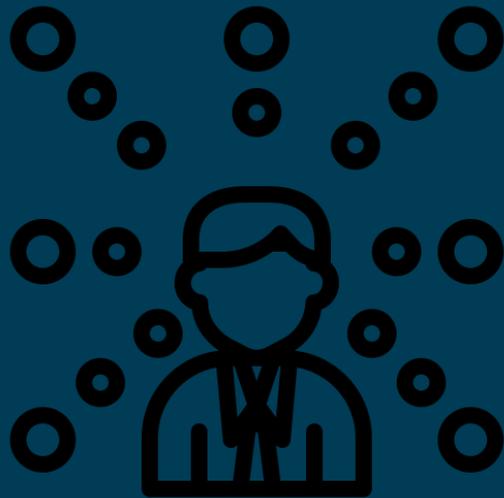


Introduction

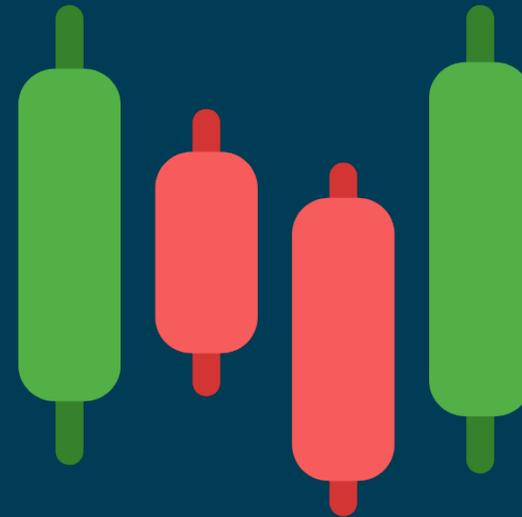
WATERAGRI water retention and nutrient recovery solutions



Aim



Awareness



Trade-offs

Serious gaming in WATERAGRI



FARM CONSTRUCTED WETLANDS FOR NUTRIENT RETENTION



Key information
A Farm Constructed Wetland has the ability to retain and reduce nutrients from the inflow through different biogeochemical processes when the water pass through it.
Target audience: farmers, general public.



Factsheets

Serious game



WATERAGRI



AgriLemma

AgriLemma



- European farmers
- Crops: potatoes, sugar beets, rapeseed, maize, wheat, and chickpeas.
- Resources, such as water, nutrients, workers, and seeds.
- Players must run, invest into and improve a farm in 8 seasons
- Balance social, environmental and financial goals.

Game specifications



Target audience: farmers or farm managers, agricultural chambers, farmer associations, water management organizations, media, researchers, policymakers

Players: 4-8

Facilitator: 1

Number of rounds: 8

Time: ~90 minutes

Type: Competitive

Resources and investments



Game currency



Resources



Water



Nutrients

One-off COSTS Maintenance

6 Farm constructed wetlands for nutrient retention **1**

A constructed wetland has the ability to reduce nutrients in the water passing through it.



Requirements: 1 field
(Place the constructed wetland field card on 1 field)

Impact (every round):
Environmental score: +1
Social score: +1

0 One-off IMPACT Every round

Technologies

COSTS CARD-USAGE

3 CROP INSURANCE DISCARD AFTER USING ONCE



Immunity from the impact of 1 event/weather cards

Developments



Workers

2 POTATO **4**



INPUTS 2 3 YIELD 4

Crops

Objective



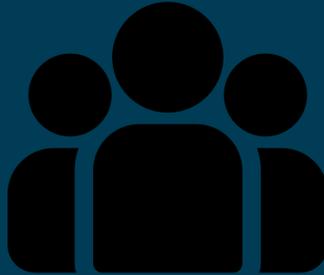
Environmental



Investing in sustainable technologies, or diversifying their crops



Social



Livelihood generation



Financial



Profit generation
Monetization of resources at the end of the game

Uncertainties



Weather

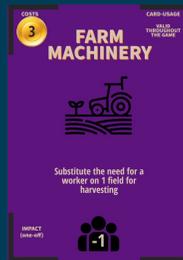
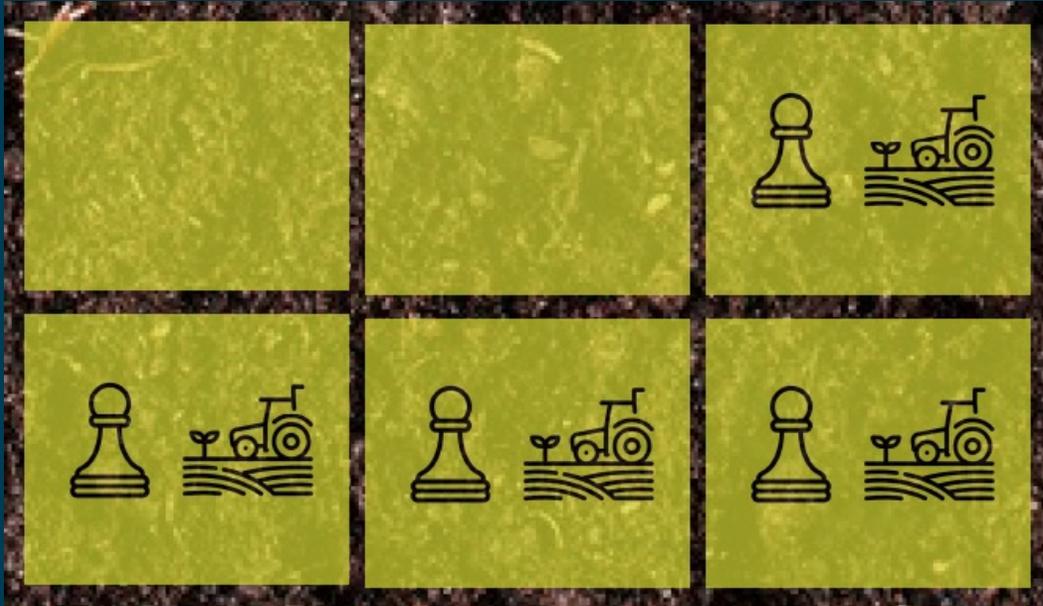


Events



Technology dice

Starting conditions



40



10



10

Game board



PENALTY 1

12 13

SUSTAINABILITY GOALS

PENALTY 2

15 15

SUSTAINABILITY GOALS

Game rounds

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



Invest



Uncertainties



Cultivate & Trade



Harvest



Payments & Scoring



POTATO (Cost: 2, Inputs: 2 water, 3 money)

MAIZE (Cost: 4, Inputs: 3 water, 2 money)

PEST OUTBREAK (Effect: 10% increase in the number of pests on all farms)

1 less coin for each crop (no impact if wetland for water insurance is purchased)

3 CROP INSURANCE

Immunity from the impact of 1 event/weather cards



1 Irrigation management platform

Provides temporary storage and can be used to provide water for irrigation and lower flow peaks.

Impact (once): Environmental score: +1, Social score: -1

Impact (every round): Water savings: 1 per field

Other rules



Players can trade resources with each other. Players can trade resources for resources or resources for money. They can negotiate the terms of selling and buying.



If players run out of money, they can take a one-time loan of 5 coins from the bank. At the end of the game, players must subtract this loan (with an interest of 1 coin) from their financial points.

Scoring



Environmental points + Social points + Profit



Monetizing resources at the end of the game

- 1 Water = 0.25 coins
- 1 Nutrient = 0.25 coins
- Any technology = 1 coin
- Any development card = 1 coin
- 1 worker = 1 coin

Game session



Permission for clicking pictures?



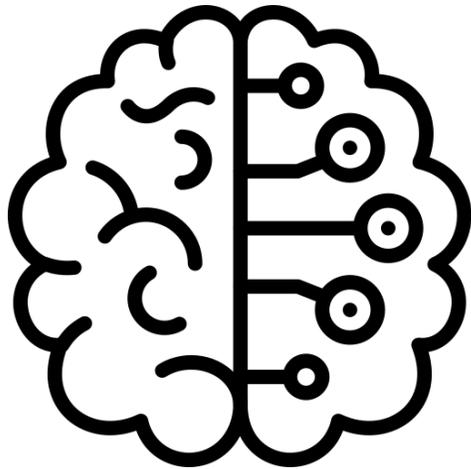


WATERAGRI



Post-game discussion

Plenary questions



What did you learn?
What strategy did you follow?



How realistic is the game?
Does it represent the complexities of
farming?



Did you miss something in the
game? What needs improvement?



THANK YOU!

Questions about AgriLemma? A.mittal@tudelf.nl



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 858735.



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