

Farming DLC

Ideas for Farming DLC

Pests and Diseases

Farmers will have to deal with the problem of pests. And they will have to decide whether they want to use pesticides or not.

There will be new pests, fungi, virus and bacteria attacking plants. e.g. the new threat to bananas.

New diseases (virus, bacteria, fungi) will emerge that hurt crops. You will have to research cure for it.

So there are 2 categories of harm:

1. Pests
2. Diseases (virus, bacteria, fungi)

Preventions and Treatments against Pests and Diseases

Pesticides

Pesticides eradicates pests

There are different types of pests and you will have to choose the right type of pesticides against them.

Pesticides Production

Pesticides are produced in factories.

Pesticides Research

You need to conduct research in R&D centers to invent new pesticides that kill different types of pests

How to buy pesticides

Set up purchasing units in a farm to buy pesticides.

Organic pesticides

- It will be possible to research organic pesticides that do not contain harmful chemicals.
- The effectiveness of organic pesticides will be low in the beginning and progressively get more effective and eventually become as effective as chemical-based pesticides.

Diseases

Similar to the way Fertilizers acting against pests, you could apply fungicide and disease control products to your crops:

Fungicide – against Fungi

Disease Control Product – against virus and bacteria

GMO (Genetically Modified Organism)

GMO crops can have following properties:

- Resistant or immune to fungi
- Resistant or immune to virus
- Resistant or immune to bacteria
- higher growth rate
- drought resistant

Organic Crops

Organic crops vs using chemical fertilizers + pesticides.

All crops will have the following new attributes:

- GMO or not
- use chemical fertilizer?
- use pesticides?
- organic or not (it is determined by the above 3 factors. If all of them are false, then the crop is organic.)

GMO Crops

Where to buy the seed? From normal sources or GMO companies?

GMO – research in R&D center. Add a new unit “Farming R&D”

On the Grow Crop selection menu, if the crop has a GMO version, the player can select the checkbox to select the GMO version.

Should organic products be indicated with an icon?

A potential way to display it:

Whether the crop is Organic or not will be represented by an Organic icon, which will be shown in the following interfaces:

-Product detail report – an icon at each row of product.

-Firm Detail Report – at the bottom of product image and on the product detail area.

Is an organic product in the same product type as non organic products? Yes, it is not a separate product.

Market shares of organic products – in real life, organic products only account for a small percentage of sale. But in the game, with technological breakthrough, organic products may account for a larger market share.

Fertilizers

Fertilizers are produced in factories.

Research in R&D centers will improve the quality of fertilizers.

2 layers of 3x3 slots on a farm's layout plan

There is an additional layer of 3x3 slots on a farm's layout plan for setting up purchasing units to purchase fertilizers and pesticides. However, crop growing units can only be set up on the original layer.

Crop Quality and Yield

Effectiveness of fertilizers and pesticides are represented by their quality ratings.

They in turn affects the crop growing process – 1) both the yield and the 2) crop quality.

Fertilizers -affect crop quality and the yield

Pesticides – affect the yield

Temperature – affect yield and crop quality – affect 20% quality, affect 30% yield

Rainfall + Irrigation system – affect yield and crop quality – 20%, affect 30% yield

Soil fertility + Fertilizer - affect yield and crop quality – 35%, affect 40 % yield

Whether the crop is organic or not – affect 30% quality

Farming unit level – affect yield and crop quality – 25%, affect 30% yield

(Let's implement it using the the above formula and we may refine it after further testing.)

Reference:

Crop quality formula currently in Capitalism Lab:

Crop quality = farming unit level * 10 + 10;

Original Capitalism Plus formula:

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// temperature - 20%  
// rainfall - 20%  
// soil fertility – 20%  
// farming unit level - 40% ( (farming unit level-1)*5 )
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Yield – new formula:

crop yield (the qty of crop harvested in each harvest)

= pesticides quality * 70% + fertilizer quality * 30% + rainfall

Land Attributes

The land for growing crops will have these attributes:

- Temperature
- Rainfall
- Soil fertility

Some types of crops can only grow on land with fertile soil and lots of rainfall, whereas some will only grow on land with low rainfall.

So it will be a challenge to grow all types of crops, the transport them throughout the country to supply them to all of the people at a reasonable transportation cost.

Livestock Feed

Livestock needs to get fed

There will be a new variable indicating the type of livestock feed that is suitable for each type of livestock.

Livestock feed can be directly grown in the same farm or bought from another farm.

You may also produce processed livestock feed in a factory and supply it to your farms.

Reference

Organic Fertilizers

The main "organic fertilizers" are, in ranked order, peat, animal wastes, plant wastes from agriculture, and sewage sludge. In terms of volume, peat is the most widely used organic fertilizer. This immature form of coal confers no nutritional value to the plants, but improves the soil by aeration and absorbing water.

Animal sources include the products of the slaughter of animals. Bloodmeal, bone meal, hides, hoofs, and horns are typical components.[5]Organic fertilizer usually contain less nutrients, but offer other advantages