

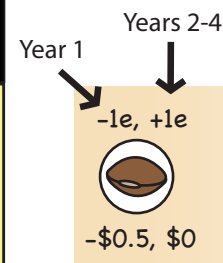
The Bioenergy Farm Game

Wild Cards

INTERPRETING CARDS


Example: If you land on a “Planting” space, refer to your crop card to determine how many Income (\$) points or environment (e) points you gain or lose for year 1 or years 2-4.

For the example at left, you lose 1 environment point in year 1, but gain 1 e-point in years 2-4.



Corn pest infestation

Insect attack on your corn fields!
Refer to your corn crop cards to
assess the impacts on your farm.


 **July**

A new pest appears on the farm. Luckily, a predator wasp is found in swiss cheese holes in the native grassland, and native grassland income and e-point for these crop fields. For these crop fields, pay 1 income e-point for spraying pesticides.


July
It is a dry summer and your corn crops need more water. Lose 0.5 income and 0.5 e-points per corn field for the extra watering.


Grass Pest Infestation

A insect pest is munching your grassy crops! Refer to your crop cards to assess the impacts.


 **June**

You have a week of soaking rains followed by a week of sun. Your crops flourish. Gain 3 income and 3 e-points.


May  A late frost damages young corn and miscanthus plants. Lose 0.5 income and 0.5 e-points for each field of these crops.

Flood 


Heavy rains hit after spraying pesticides. Lose 1 e-point for each corn field and 0.5 e-points for every other field because the chemicals have leached into the soil.

May  Bees are buzzing! If you have grassy fields next to your orchard, they will pollinate the flowers. Gain 2 income points for the apples and 2 e-points for providing a habitat.

STOP! Plant your fields

April 


For each of your fields that you didn't have to plant this season, gain 1 income point because you had extra time to plant a vegetable garden to sell vegetables at the farmers' market.

March 

STOP!

Buy Chemicals

Buy chemicals (fertilizer, insecticides, herbicides) for your fields. Refer to the crop cards to determine costs.

 **March**

You decide to skip
tilling your field
which releases less
carbon dioxide
into the
atmosphere. Gair
1 e-point for each
field that you are
planting this
season.

March

Perennial crops from last year start growing. Earn 1 e-point for each field that is already taking carbon dioxide out of the air through photosynthesis.

Start


Year 1: Choose which crops you want to plant. Decide how many fields of each crop you'd like to plant (for a total of five fields). Take the appropriate number of crop cards and note the number of fields on your scoresheet.


Years 2-4: Now is your opportunity to switch your current crops for new ones if you would like.

Remember that you can't harvest perennial crops until the 2nd year.

STOP!
Harvest
perennials

Refer to the
information on your
crop card to
calculate your
income and
e-points.

A white question mark icon inside a white circle, set against a dark background.

 **October**

Perennial plants turn brown and nutrients return to the roots before harvesting crops so you will need less fertilizer next spring. Gain 0.5 income points and 1 e-point for each perennial crop field that will be harvested.


 **October**

You decide to leave a
some stubble on your
corn field that attracts
wildlife and adds carbon
to your soil. Gain 1
e-point for each corn field.

STOP!

 **Harvest corn**


Refer to the information on your crop card to calculate your income and e-points.

 **September**

You turn one of your fields into a corn maze which brings lots of visitors to your farm. Gain 1 income point if you have at least 1 corn field.

 **September**


Local hunters are looking to rent land that provides good wildlife habitat. Receive 1 income point and 1 e-point for each field of native grassland planting.

 **September**


It is a beautiful, sunny, early fall day. Gain 2 e-points and 1 income point because your crops are taking carbon dioxide out of the atmosphere through photosynthesis.

Drought

No rain for months!
Refer to your crop
cards to assess how
the drought affects
your farm.

 **August**

Heavy rains! For each grassy crop field by the stream, gain 2 e-points for preventing runoff. For each corn field by the stream lose 2 e-points for soil erosion into the stream causing water pollution.

 **August**

With high gas prices, biofuel refineries demand more bioenergy crops. Earn 3 income points.



Winter Vacation

Hot cocoa, cookies, warm fires and bowling league time!

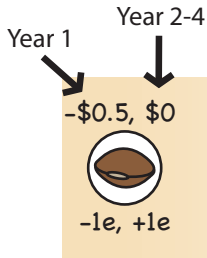
Wait here until all players have gone around board. As you wait, bowl for income points. (Roll even for 1 income point, and roll odd for 0.5 income point.)

When all players have gone around, move as a group to the start square.



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CARD KEY



- Chemical



- Planting



- Harvest



- Drought

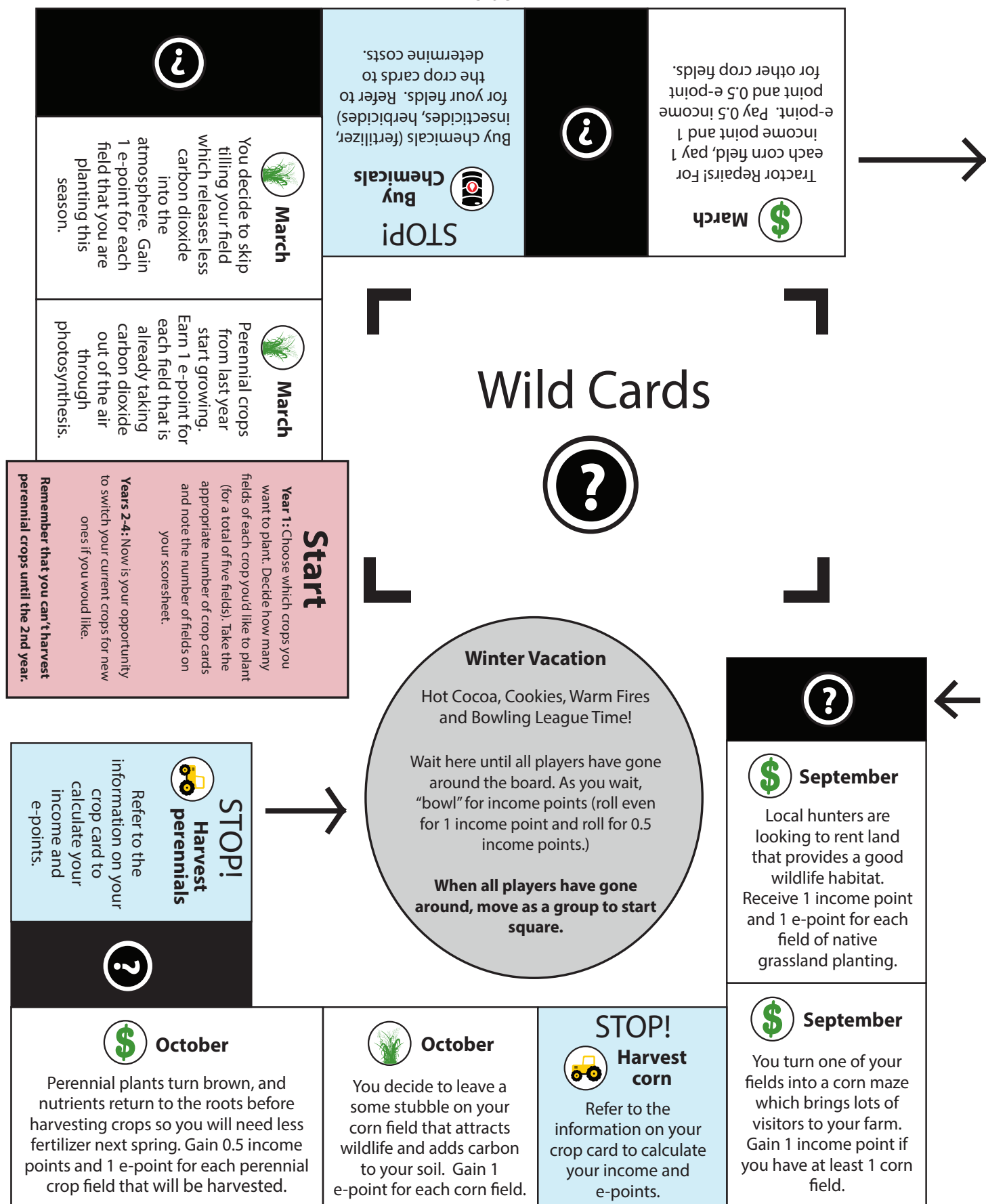


- Flood



- Corn/Grass Pest

Side A



Side B

<p>STOP!</p> <p>Plant your fields</p> <p>Refer to your crop cards to determine that perennial crop costs change after the first year.</p>	<p>April</p> <p>For each of your fields that you didn't have to plant this season, gain 1 income point because you had extra time to plant a vegetable garden to sell vegetables at the farmers' market.</p>	<p>May</p> <p>Bees are buzzing! If you have grassy fields next to your orchard, they pollinate the flowers. Gain 2 income points for the apples and 2 e-points for providing a habitat.</p>	<p>May</p> <p>Heavy rains hit after spraying pesticides. Lose 1 e-point for each corn field and 0.5 e-points for each other field because the chemicals have leached into the soil.</p>	<p>Flood</p> <p>Rain, rain, go away! Your fields are under water. Refer to your crop cards to assess the flood damage.</p>	<p>May</p> <p>A late frost damages young corn and miscanthus plants. Lose 0.5 income and 0.5 e-points for each miscanthus field.</p>	<p>June</p> <p>You have a week of soaking rains followed by a week of sun. Your crops flourish. Gain 3 income and 3 e-points.</p>	<p>Grass Pest Infestation</p> <p>An insect pest is munching your grassy crops! Refer to your crop cards to assess the impacts.</p>	<p>July</p> <p>It is a dry summer and your corn crops need more water. Lose 0.5 income and 0.5 e-points per corn field for the extra watering.</p>	<p>July</p> <p>A new pest appears on your farm. Luckily, a predatory wasp is found in switchgrass and native grassland. Gain 1 income and e-point for each of these crop fields. For other fields, lose 1 income and e-point for spraying pesticides.</p>
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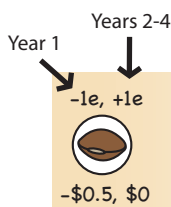


The Bioenergy Farm Game

CARD KEY

- Chemical
- Planting
- Harvest
- Drought
- Flood
- Insect Infestation

INTERPRETING CARDS



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<p>September</p> <p>It is a beautiful, sunny, early fall day. Gain 2 e-points and 1 income point because your crops are taking carbon dioxide out of the atmosphere through photosynthesis.</p>	<p>Drought</p> <p>No rain for months! Refer to your crop cards to assess how the drought affects your farm.</p>	<p>August</p> <p>Heavy rains! For each grassy crop fields by the stream, gain 2 e-points for preventing runoff. For each corn field by the stream lose 2 e-points for soil erosion into the stream, which pollutes the water.</p>	<p>August</p> <p>With high gas prices, biofuel refineries demand more bioenergy crops. Earn 3 income points.</p>	<p>July</p> <p>A new pest appears on your farm. Luckily, a predatory wasp is found in switchgrass and native grassland. Gain 1 income and e-point for each of these crop fields. For other fields, lose 1 income and e-point for spraying pesticides.</p>	<p>July</p> <p>It is a dry summer and your corn crops need more water. Lose 0.5 income and 0.5 e-points per corn field for the extra watering.</p>	<p>Grass Pest Infestation</p> <p>An insect pest is munching your grassy crops! Refer to your crop cards to assess the impacts.</p>	<p>June</p> <p>You have a week of soaking rains followed by a week of sun. Your crops flourish. Gain 3 income and 3 e-points.</p>	<p>May</p> <p>A late frost damages young corn and miscanthus plants. Lose 0.5 income and 0.5 e-points for each miscanthus field.</p>	<p>Flood</p> <p>Rain, rain, go away! Your fields are under water. Refer to your crop cards to assess the flood damage.</p>	<p>May</p> <p>Heavy rains hit after spraying pesticides. Lose 1 e-point for each corn field and 0.5 e-points for each other field because the chemicals have leached into the soil.</p>	<p>STOP!</p> <p>Plant your fields</p> <p>Refer to your crop cards to determine that perennial crop costs change after the first year.</p>
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