

Marvellous Mini-fields - What can you find in a square metre?

Winter Wheat

Input	Per ha	Per m ²
Seed		300seeds
Pesticide /spray	15lt	1.5ml
PK fertiliser (0.24.24)	300kg	30g
Nitrogen fertiliser (AN)	580kg	58g
Harvest		
Wheat	10t	1kg
1kg Wheat	800g Flour	1 large loaf
1kg Wheat	If included in chicken rations = 11 eggs	

To work out how many biscuits or cakes etc use 800g of flour and look in a recipe book to see what you could get

Winter Oats

Input	Per ha	Per m ²
Seed		275 seeds
Pesticide /spray	10lt	1ml
PK fertiliser (0.24.24)	300kg	30g
Nitrogen fertiliser (AN)	376kg	37g
Harvest		
Oats	7.5t	750g
750g Oats	Would make about 450g of rolled oats (porridge)	

Winter Malting Barley

Input	Per ha	Per m ²
Seed		275 seeds
Pesticide /spray	10lt	1ml
PK fertiliser (0.24.24)	300kg	30g
Nitrogen fertiliser (AN)	376kg	37g
Harvest		
Barley	7.5t	750g
750g Barley	600g Malt	11 pints of beer, Or 1 bottle of whiskey
		265 x (37g) packs of Maltesers
		33 x (750g) pack of corn flakes

Oilseed Rape

Input	Per ha	Per m ²
Seed		80 seeds
Pesticide /spray	5lt	0.5ml
PK fertiliser (0.24.24)	300kg	30g
Nitrogen fertiliser (AN)	725kg	72g
Harvest		
OSR	4t	400g
400g OSR		@ 45% oil makes 180ml of oil to cook chips in etc
Rape seed oil can be used to make the very thin layer separating the toffee and nougat in Mars Bars...		... enough for 500+ Mars Bars

Marvellous Mini-fields

Making connections – between farm, nature, food and everyday life - is much easier with a mini field.



Choose what marvellous stories you want to tell with your mini fields and get all the props you need for every part of the tale.

Method

If you are using conduit (white plastic pipe) and corner joints from DIY stores then oiling the ends of the straight sections with cooking oil (from time to time) will make the mini fields easy to dismantle and re-assemble.

Produce the props in your mini field story one by one and out of a Let Nature Feed Your Senses (LNFYS) bag to build the 'wow' factor.

You can link what happens in farming in the mini field to everyday life by showing the seeds, the crop, what is produced and what foods it goes into. You can invite your guests to calculate the productivity of the whole field by pacing or measuring out the length and width of whole or



20-60 minutes

For each mini field you will need

- 4 lengths of plastic conduit
- 4 corner joints
- Vegetable oil
- Farming and food props for each story you want to tell all concealed in a LNFYS bag.
- Plastic mini money bags from bank (to give your guests things such as seeds to hold/take away)



part of the field and, using the LNFYS chalkboard, work out how many mini fields there are and multiply up the total produced in kilos of flour, loaves of bread, potato crisps or whatever.



Constructing the mini-fields is part of the activity

Oilseed rape

(Thanks to David Jones, Morley Farms, Norfolk for these marvellous numbers)

Show the marvellous rape seed and let guests feel, hear and see it.

Farmer plants just 80 seeds (in a bank money bag they will pick up static and move in interesting way)

Farmer will harvest 400g of oilseed from the minifield plants

45% of that 400 g seed is oil which is crushed out as 180 ml of oil (pour it from bottle into a measuring jug)

(The remainder, the seed case etc, go to be used in feed for animals)

Rape seed oil from one mini field can be used to make the very thin layer

separating the toffee and nougat in at least 500 Mars bars



Wheat

(Thanks to David Jones, Morley Farms, Norfolk for these marvellous numbers)

Show the marvellous wheat seed and let guests feel, hear and see it.

Farmer plant 250 seeds

Show ears of wheat (dried if need be) and how many grains per ear.

Farmer will harvest 1 kilo wheat seeds (bite into seed to show the white flour and grind in hand pepper mill to show how flour is milled from wheat)

From which will get 800g flour (later open a Pop Up Cafe and cook pancakes with the flour)

Makes 2 loaves of bread or 25 dinner plate size pancakes

Invite your guests to pace or measure out size of the field and calculate how many mini fields and therefore how many loaves of bread will made with the wheat grown.

Earthworms

There can be 100 worms per square metre or mini field. How many in this field? Do the sums!

For livestock farms there can be the same total weight of worms below ground as the weight of farm animals above it.

Worms only come to the surface on a rainy day. That's why we only see them during or after rain. Summon up some worms by stamping, banging on a metal stake inserted in the mini field (the worms think it sound like it's raining), watering the ground with weak mustard powder solution.

Gentle handling of worms, offering gloves to people with for example autism (who may prefer not to be bare-handed), is a great.

Make a mini wormery by layering soil and sand in a large glass jar for which you have a lid with holes punched in. Add a few worms and put some leaves/vegetable peel/fruit pieces on the surface. Wrap round with black paper and observe over time. Only keep the worms for a few days then let them go in a shady spot.

Potatoes (for processing variety such as Maris Piper)

Plant 3 tubers in a mini field

Harvest up to 4.5 kilos potatoes

Will go to factory to make 180 packets of crisps

Potatoes (salad variety such as Maris Pier)

Plant 9 tubers in a mini field

Harvest them after about 16 weeks, when no more than the size of a hen's egg or 42 millimetres in length, and get up to 3 kilos potatoes

Will make 30 (100g) pots of potato salad

Sugar Beet

Plant 11 seeds in a mini field (likely only 9 of those will grow into strong healthy beet plants)

Harvest 9 big sugar beet with total weight of 7 kilos

The leaves and the top or crown of the root can be eaten by sheep or cattle

At the sugar beet factory the roots are washed, cooked, chopped and whizzed and 980g (or roughly two 500 g bags) of sugar will be extracted from the 7 kilos of sugar beet

The rest of sugar beet root is not wasted. It is made into dried animal feed, amongst other things.

Mini fields of grass

One sheep needs 1000 mini fields of grass to live on

One beef cow needs at least 7000 mini fields of grass

Mini fields of grass to produce wool

One mini field helps a sheep to produce just 3g of wool a year.

It takes ten mini fields of grass to produce enough wool to knit one pair of mittens or gloves.



Amazing Animals numbers

Milk magic

A dairy cow will give about 25 litres of milk a day – or 12.5 litres each milking.

Use empty plastic milk bottles, to show what this is. Stringing them up reveals the scale of this production.

Weigh Hey – how much hay?

Grass to Glass - in summer a dairy cow will need to eat about 70 kilos of grass in the field a day.

In winter when the grass is not growing a cow will eat 25 kilos of dry feed like hay a day as well as concentrated food

Use spring scales and a sack and invite your guests to gather and weigh enough.



More, more, more....

It's easy to create your own mini field stories appropriate to what you produce. But you can tell the mini field stories of whatever crop or livestock you like.

Beyond the field use of mini fields – to exhibition space

Use the mini field as an exhibition space for the things you get your group to make during the visit. Have a good word to say about each of the creations –drawings, sheep designed with wool and sticks, butterfly flower feeders, leaf collages, sound maps or map sticks – so you can reward effort, imagination and participation. It's another chance to create conversations that will make the time with you memorable and meaningful.



Mini fields are big on Sensory experiences

- feel the texture, size and weight
- compare the difference in weight between seeds planted and crop harvested
- offer plastic gloves to guests who may prefer not to handle bare-handed (can be particularly common in people with autism)
- offer trays (of halved carpet squares for example) to wheelchair users so things can be handled and observed easily and over time

Thank you to Susie Emmett for the marvellous mini-fields activity

