



**Video teacher notes**

**Welcome**

To inspire discussion around food production, food commodities and health, six videos have been created based on real research projects from around the EU.

The videos act as a stimulus in the classroom to motivate children and young people, as well as provide teachers with an insight into developments.

The videos are:

* Big brother in the pig sty (future production of pork / animal welfare);
* Protecting crops, naturally! (horticulture and use of alternatives to pesticides);
* Eating insects (food culture and new protein sources);
* Too tasty for your own good (food addiction and food choice);
* Healthier pizza (developing products that have less fat, salt and sugar);
* Fighting childhood obesity (reviewing a study on understanding the reasons for childhood obesity in Europe).

The videos could be used to introduce children and young people to:

* how different food is reared and grown throughout the EU;
* food culture and food choice – choices now and in the future;
* the issues surrounding obesity.

The videos have been kept short, allowing them to be easily played in the classroom. You may wish to use these to start a debate (such as around future food sources, like insects) or start a research project on food production in Europe or obesity levels in different member states. The choice is yours.

For each video a link has been provided to the research project for further information.

The videos are available to view at: [www.commnet.eu](http://www.commnet.eu)

**Big Brother in the Pigsty!**

Location 1: Pig farm of Marc Mir, Tona, Vic, Spain

Location 2: Slaughterhouse Mafrica, Sant Joan de Vilatorrada, Vic, Spain

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| Time | Commentary |
| 00:00 | *Teaser and Title* |
| 00:10  *Meat from the slaughterhouse; Pigs in cages* | Every person in Europe eats nearly 60 kilogram of pork per year. The price for pork is extremely low – and can only be kept at this level through intensive farming. This raises major concerns to the health and welfare of the animals. |
| 00:27  Marc Mir´s farm in Spain | Heiner Lehr had the vision of an animal friendly livestock that could be combined with the need to produce meat cheaply and of a good quality.  Within the European research project “All Smart Pigs” he has developed a 24/7 surveillance farm. The aim is to ensure the wellbeing of the pigs, and also to help the farmer to respond appropriately to the needs of his animals.  Marc Mir is a small pig farmer in Northern Spain. His farm is the first farm equipped with the surveillance system.  Sometimes farmers have to deal with thousands of pigs, which makes it impossible to look after each one of them individually like in the old days. But now farmers can use technologies that will assist them. This type of animal husbandry is called “Precision Livestock Farming” or short “Smart Farming”. |
| 01:15 | Once installed in the sty and connected to a computer Marc receives a daily report on the status of every individual pig.  A sound system allows him to early detect respiratory diseases as the microphone is recording the barking cough when a pig feels sick.  With a feed sensor Marc can exactly determine the amount of feed his pigs need. And using a new camera with image analysis tool, the farmer can find out when a pig is ready to be slaughtered. |
| 01:55 | Big Brother in the pigsty. The new surveillance technologies could be a first step to improve the animal´s welfare in intensive farming.  At the same time, it could ensure a better quality of the chops and sausages on our table. |
| 02:10 | *THE END* |

<http://www.all-smart-pigs.com>

**Protecting plants, naturally!**

Location 1: Fondazione Edmund Mach, S. Michele, Italy

Location 2: Scuola Superiore Sant´Anna, Pisa, Italy

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| **Time** | **Commentary** |
| 00:00 | *Teaser and Title* |
| 00:10  *Grape berry moth in the cag; Oscar on his field* | This is the European grape berry moth. Oscar, a farmer from Northern Italy, fears this insect as it attacks his farm and infest the flowers and the grapes with a fungal disease. Oscar could lose his entire harvest. |
| 00:25  *Oscar is spraying pesticides on vineyards* | In order to protect the grape vines from diseases Oscar usually applies plant protection products. These chemical substances are toxic and kill the insects or destroy the fungus.  This is good for the harvest, but if they are applied in the wrong way, they may be harmful for humans and the environment. |
| 00:45  *Ilaria Pertot applying the pheromone dispenser, berry moth* | Ilaria Pertot wants to find non-toxic alternatives to protect the plants. Within the European research project “PURE” she is experimenting with odors that will stop the insects to have babies.  To find a partner the female berry moth emits a special odor which attracts the male. This is how they find a mating partner. To stop this communication Ilaria uses this small dispenser which is filled with the odor of the female moth.  In the grape plantation/vineyard the dispenser releases the female odor in a very high dosage. This confuses the male and he is not able to locate his female partner any more. As a result they will have no offspring. |
| 01:30  *Cicada Scaphoideus titanus; infected grape vines* | A similar method can also be used for this tiny cicada which can carry the germs of a deadly vine disease. |
| 01:40  *Valero Mazzoni applying vibrational sound system* | In this case, the insects communicate with special sound waves. So Ilaria and his colleague Valero have searched for a method to disrupt the communication like they did with the moths, experimenting with a vibrational sound system. Valero has been able to re-created specific sound vibrations of the female cicada which confuses the male. As a result, the male is not able to locate the mating call – and again no offspring is in sight. |
| 02:10 S. Michele, Italy; vineyards; Ilaria Pertot examining grape leaves | Ilaria and her team are hopeful that one day farmers of grape plantations will be able to protect their crops without using any kind of toxic pesticides. |
| 1. 02:25 | 1. *THE END* |

<http://www.pure-ipm.eu/>

**Eating insects**

Locations:

1. China, Guangzhou, Guangdong, GUANGDONG ENTOMOLOGICAL INSTITUTE

2. China, Guangzhou, Guangdong, insect restaurant

3. China, Huizhou, Guangdong, production facility + chicken rearing

4. China, Huizhou, Guangdong, local pig farm

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| **Time** | **Commentary** |
| *00:00* | *TEASER and TITLE* |
| *00:10 Insect Restaurant – eating insects* | In some Asian countries insects like maggots, scorpions and beetles are considered a delicacy.  *Guandong Entomological Institute in Guangzhou, China – laboratory, examining maggot*  In fact scientists found out that these small creatures are not only tasty, but can also form part of a healthy diet! They provide protein, vitamins and minerals. |
| 00:28 *Chicken Farm in Guangdong, China – chicken are fed with maggots, Elaine Fitches talking to chicken farmer* | What’s good for humans, can’t be bad for animals. Therefore, chicken farmers in China feed also their birds with insects – in this case maggots of the common housefly.  European experts from the EU funded research project PROteINSECT have travelled to China to learn how this is done, and whether this could also be adapted to animal farms in Europe. |
| 00:52 *House-Fly “farm” at Entomological Institute in Guangzhou, China – house-flies feeding on sugar; collecting of eggs* | The common housefly can be bred fairly easily. Once it is born, it can produce offspring within a matter of days. All it needs is a sugar solution on a sponge to feed and prosper, and the flies will lay their eggs on a prepared dish with milk-soaked linen. |
| 01:12 *Mixture of manure and eggs – hatching of maggots* | Now the breeders take these eggs and place them upon the manure of the farmed animals, which before was mixed with straw or other organic waste. This warm and cosy environment is the perfect place for the maggots to hatch. |
| 01:27 *Chicken farm – collecting maggots and feeding chicken* | After a couple of days, the farmers can easily collect the maggots and feed them to the animals. |
| 01:35 *Chicken feeding on maggots in nature* | As insects are part of the natural diet of birds they are actually very good for their digestive system and for their health in general. But what about other farm animals? |
| 01:45 *Pig farm in China* | Researchers are now testing if the insects could also be fed to pigs which need 45 kilograms of proteins during their life span.  The results are promising, so feeding insects to farm animals could soon be introduced also in Europe. |
| 02:05 *Restaurant* | But if insects will also make it to our plate – remains to be seen. |
| 02:13 | *THE END* |

<http://www.proteinsect.eu/>

**FIGHTING CHILDHOOD OBESITY**

Location 1: Market, Oldenburg, Germany

Location 2: Families house, Oldenburg, Germany

Location 3: BIPS Leibniz Institute for Prevention Research and Epidemiology, Bremen, Germany

Location 4: Families house + playground, Delmenhorst, Germany

Location 5: I.Family Examination Van + I.Family investigation centre, Delmenhorst, Germany

Location 6: Ice-cream shop, Piazza del Campo, Siena, Italy

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| **Time** | **Commentary** |
| 00:00 | *Teaser and Title* |
| 00:10  *Ice-cream shop* | In the past 30 years childhood obesity has more than doubled. Today one in five children in Europe is overweight. But why? Is it just their diet, their genes, or their habits that are responsible for this increasing obesity crisis? |
| 00:28  *Children entering the I.Family centre/ .Family van, examination of Melanie* | Scientists started ten years ago to examine 16.000 children across Europe. These kids are now grown up teenagers, and within the European research project i-Family they are now examined again. One of the volunteers is the fifteen year old Melanie from Delmenhorst in Northern Germany. Her body size and weight are measured and blood samples are taken as the researchers want to better understand her genes. |
| 00:57  *Melanie fills out survey, Melanie´s family during interview* | For this study, Melanie also needs to fill out a survey about her diet and activities. At the same time, her mother is interviewed separately on the habits of her daughter. |
| 01:10  *Prof. Wolfgang Ahrens working on computer* | From all this data, the researchers want to get a better understanding of childhood obesity and its underlying reasons. |
| *01:20*  *Kids playing computer game* | And the scientists have identified some surprising results: For example, lack of sleep or watching adverts on television seem to have a significant influence on the susceptibility of obesity. |
| 01:35  *Melanie and her family having dinner* | But the most important elements, which help to prevent children from gaining too much weight, are less unexpected: it’s a healthy diet and physical activity. |
| 01:48  *Kids playing soccer* | Following the results from the study, we can say: get plenty of sleep, be more active and eat a balanced diet as children, who are physically fit, are also more self-confident and usually do better at school. |
| 02:00 | *THE END* |

<http://www.ifamilystudy.eu/>

**Tasty and Healthy**

Location 1: ONIRIS – Food Processing and Food Science, Nantes, France

Location 2: Piazza del Campo, Siena, Italy

Location 3: Candy shop, Cambridge, UK

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| **Time** | **Commentary** |
| 00:00 | *Teaser and Title* |
| 00:10 *Sweets shop with different candy,* | Sugar, fat and salt may be different ingredients, but they all have one thing in common: they all enhance flavour. |
| 00:20 *Pisa Brain Scan* | The food industry knows this and uses these ingredients to target our reward pathways in the brain when we eat their products. That´s why some of their food is so seductive to us. |
| *People walking eating pizza and ice cream; Oniris: scientists walk into building* | But too much sugar, fat and salt are unhealthy, so the Europe Union has reacted, and ordered that by 2020 the salt content in readymade meals needs to be reduced by 30%. |
| 00:45 *Pizza making: dough with salt grains; mixing of dough* | Nutrition scientists in France work for the EU-funded research project PLEASURE to create a new pizza with a much lower salt content without compromising on taste. The dough for the pizza is dredged with salt grains that are protected and still give the perception of a salty taste when you bite. But reducing the salt increases the risk that the dough gets sticky, that´s why the speed and duration of mixing is also modified. |
| 01:15 *Pizza slices put into the chewing machine* | The ready pizza is sliced into pieces and added to an artificial chewing machine, which imitates saliva flow and chewing movements. The machine gives reliable data of texture and sensual impression of the product. |
| *01:30 Volunteers try the new pizza* | But nothing can replace the sensual experience of real people. So the scientists have also invited volunteers to try the new product. They get two slices of pizza – one from a regular and one of the new salt reduced. After that they answer questions about taste, texture and aroma of the food. |
| 01:50 *Topping the new pizza and baking it in the oven* | The results provide the researchers with important information about their innovative product. One thing is sure: the new pizza is much healthier, but it is unsure, if the food industry will also make use of this new technology. |
| 02:05 | THE END |

<http://www.pleasure-fp7.com/>

**Too Tasty For Your Own Good**

Location 1: Institute of Clinical Physiology, National Research Council, Pisa, Italy

Location 2: ONIRIS – Food Processing and Food Science, Nantes, France

Location 3: Piazza del Campo, Siena, Italy

Location 4: Candy shop, Cambridge, UK

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| **Time** | **Commentary** |
| 00:00 | *Teaser and Title* |
| 00:10 | This looks really tasty, right? Although we know, that having too many sweets can be unhealthy, we sometimes can´t resist them. Can food have such an addicting influence on some of us? |
| 00:24 | Italian researchers have found out that food that contains sugar or fat activates the reward centre in our brain.  Within the European research project “NEUROFAST” Patricia i-ozzo and a team of scientists want to know exactly how different people react when they eat something really seductive – like chocolate. |
| 00:45 | Therefore the scientists have to prepare a huge experiment. They need: first of all a lot of chocolate, a monitor, a machine to look into our brain, a computer and many guinea pigs. Patricia were thinking about how to get a comparative result and divided the test persons into two groups according to their susceptibility to food addiction. Giulia, is one of the today’s guinea pigs.  First, Giulia is exposed to pictures of sweets like a chocolate cake. Whilst she looks at the cake Giulia gets liquid chocolate dropped into her mouth.  A test we probably all would like to do. |
| 01:08 | But the results were a surprise. It seems that people who are more susceptible to food addiction, experience less pleasure when eating food.  This means, they need to eat more food to experience the same reward activity in the brain. Therefore, they are more likely to become obese. It’s all controlled in our brain. |
| 01:45 | THE END |

<http://www.neurofast.eu/>