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ордена «Знак Почета» гимназия №5 им. Луначарского А.В.**

Проект по английскому языку

Would you dare?

**Подготовили учащиеся
9 «А» «Б» «В» «Г» «Д» классов
Руководитель: Катамадзе Н.Т.**

Владикавказ, 2023

Содержание

Что такое энтомофагия?
Преимущества энтомофагии
Проблемы энтомофагии
Статистические данные
Использованные источники

Введение

Цель данного проекта привить интереса к изучению английского языка путём знакомства с различными видами питания, развитие сознательного отношение к употреблению здоровой пищи.

Задачи: знакомство с традиционными продуктами питания в некоторых англоязычных странах, а также других странах, воспитание привычек здорового образа жизни; развитие сознательное отношение к употреблению здоровой пищи; развитие творческих способностей

Актуальность темы связана с распространением необычных блюд, которые выходят за рамки своих стран. Развитие интереса к таким блюдам у детей способствует более быстрому привыканию к употреблению полезных продуктов. Проект решает одну из важнейших задач: формирование у детей ответственного отношения к своему здоровью. Дети должны узнать и принять для себя основные принципы здорового образа жизни.

Личностные результаты: Развитие самостоятельности и личной ответственности за свои поступки, здоровье на основе нравственных норм и правил Развитие эстетических чувств Формирование установки воспитанников на здоровый, безопасный образ жизни и здоровое питание Бережное отношение к материальным и духовным ценностям, культуре, традициям, в частности в сфере культуры питания и здоровья Овладение начальными навыками адаптации с помощью самодиагностики и регуляции своего поведения

Метапредметные результаты: Развитие универсальных учебных действий Освоение различных форм познавательной и личностной рефлексии Формирование умения планировать на примере питания и образа жизни Использование различных способов поиска информации Овладение логическими действиями сравнения, анализа, синтеза обобщения и т.д.

Методы реализации проекта теоретический - изучение и анализ литературы, изучение и анализ практического зарубежного опыта, количественный анализ результатов деятельности, сравнительный анализ полученных данных; графическая интерпретация

What is entomophagy?

Entomophagy is the technical term for consuming insects (by humans and, depending on the source of the definition, by other organisms). It is a common practice for about 2 billion people around the world. Recently, it has also been discussed as a solution to ensure global sustainable food production. The reason for that is that insects are an excellent source of proteins, vitamins, fats, and essential minerals and should be seen as healthy, nutritious alternatives to mainstream staples such as chicken, pork, beef and even fish.

What's more, they have a much smaller ecological footprint than livestock and they can be raised on food waste in urban and rural settings. This makes a strong case in favor of mass farming insects for food as this practice is less environmentally damaging than probably any other form of animal protein production.

Humans have harvested the eggs, larvae, pupae and adults of certain insect species from forests and other habitats throughout the course of our evolution, and they still retain an important place as a traditional food in many parts of the world. Currently, researchers have identified more than 2,100 species of edible insects.

There are two distinct psychological reactions to insects as a food source for humans. In countries where entomophagy is the norm, insects are seen as a valued protein source; knowledge on which species are edible is considered local wisdom passed down between generations. Conversely, in Western cultures, insects can invoke visceral negative reactions. Deeply embedded in the Western psyche is a view of insects as dirty, disgusting and dangerous.

Why it matters - benefits of entomophagy

Entomophagy is a promising solution in shifting (especially Western) people's perception of what constitutes a healthy diet: one that provides adequate and delicious nutrition and at the same time has little negative impact on the environment.

Insects grow and reproduce easily, have high feed conversion efficiency (since they are cold blooded) and can be reared on biowaste streams.

On average, 1 kg of insect biomass can be produced from 2 kg of feed biomass. Insects can feed on waste biomass and can transform this into high-value food and feed resource. Studies have demonstrated that it is technically feasible to produce insects on a large scale and to use them as an alternative sustainable protein-rich ingredient in pig and poultry diets, particularly if they are reared on substrates of biowaste and organic sidestreams.

There are three main benefits from including insects into our foods:

Improved human health

There are numerous health benefits from eating insects. In general, edible insects are a good source of protein, fatty acids, vitamins, and minerals, though the nutritional profile can vary widely among species. This makes them a potential food source for healthy human diets.

Positive impact on climate change and global resource constraints

Insect farming has low carbon, water and ecological footprints when compared to other livestock species, making them highly attractive from an environmental sustainability standpoint. The reasons are a high feed-conversion efficiency; the emission of relatively few greenhouse gases and relatively little ammonia; no animal welfare issues; and can be reared on organic side streams, reducing environmental contamination.

- Insects as food emit considerably fewer greenhouse gases than most livestock (methane, for instance, is produced by only a few insect groups, such as termites and cockroaches)
- Insect rearing is not necessarily a land-based activity and does not require land-clearing to expand production.
- The ammonia emissions associated with insect rearing are also far lower than those linked to conventional livestock, such as pigs

- Because they are cold-blooded, insects are very efficient at converting feed into protein (crickets, for example, need 12 times less feed than cattle, four times less feed than sheep, and half as much feed as pigs and broiler chickens to produce the same amount of protein).
- Insects can be fed on organic waste streams. Raising edible insects on food waste not only eliminates the need for the production of grain necessary to feed livestock such as chicken and cattle, which consume vast amounts of arable land, but also naturally tackles the problem of food waste.

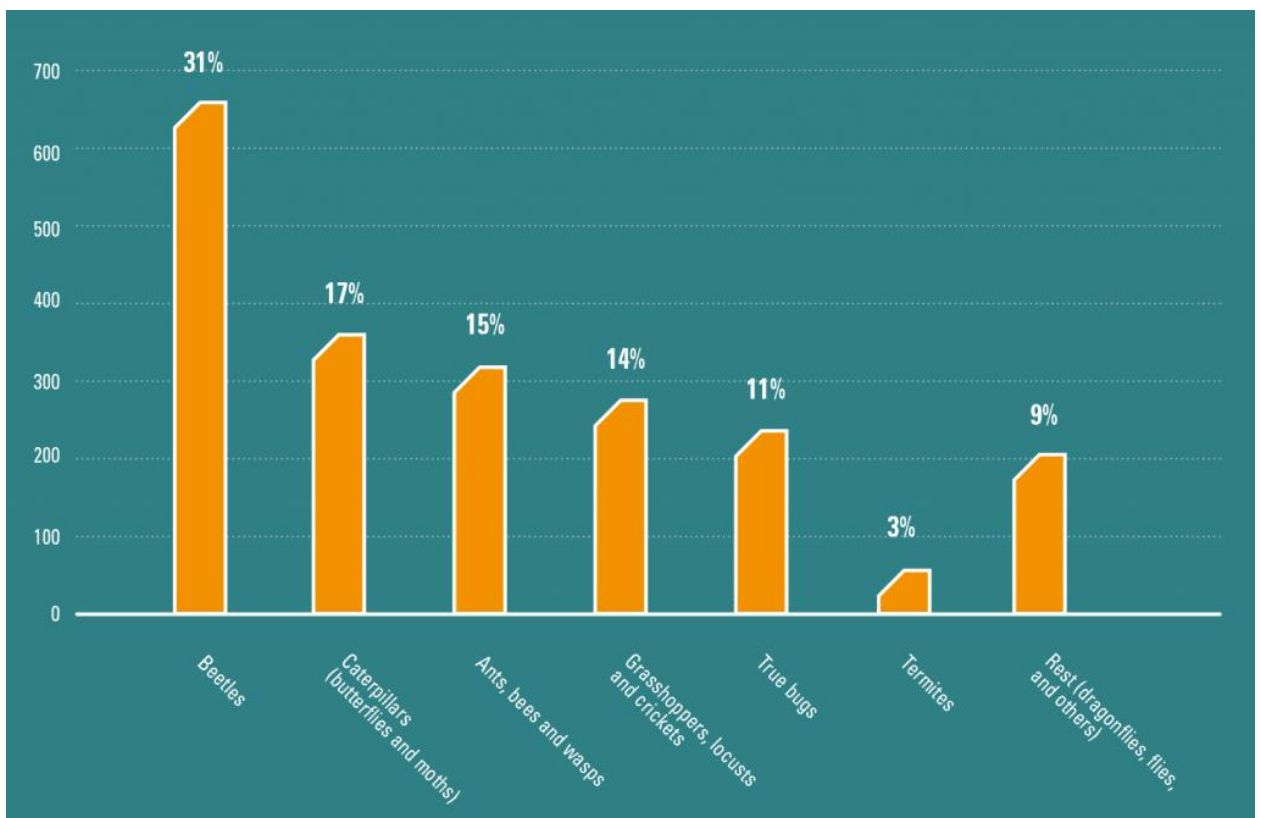
Improved living conditions in developing countries

- Insect harvesting/rearing is a low-tech, low-capital investment option that offers entry even to the poorest members of society.
- Mini livestock offer livelihood opportunities for both urban and rural people.
- Insect rearing can be low-tech or very sophisticated, depending on the level of investments.

Entomophagy by the numbers

Globally, the insects most eaten by humans are

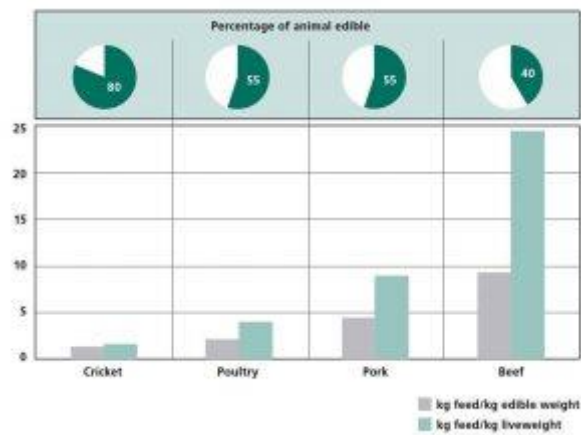
- Beetles (31%)
- Caterpillars (17%)
- Bees, wasps, and ants (15%)
- Grasshoppers, locusts, and crickets (14%)
- Cicadas, leafhoppers, planthoppers, scale insects and true bugs (11%)
- Termites (3%)
- Others (dragonflies, flies, and others – 9%)



The number of recorded edible insect species per group in the world. (Source: Jongema, Y. 2017. List of Edible Insect Species of the World)

Insects have high feed-conversion efficiency. For instance, one kilogram of termites provides 350g of protein, compared to 320g from one kilogram of beef. And a much greater proportion of an insect's body is edible, for example, one kilogram of feed gives 470g of edible weight for crickets, but just 110g for pigs and 40g for cows.

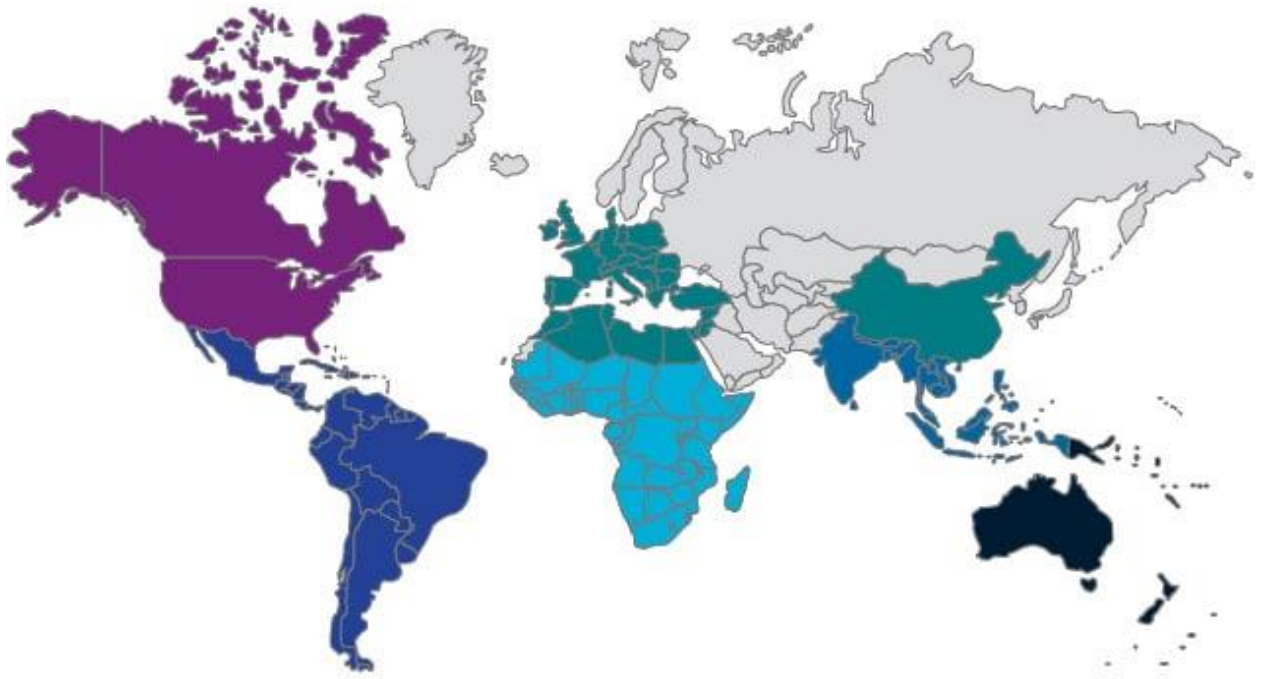
If everyone on earth switched to eating insects up to 30 percent of the world's land surface could be reclaimed from livestock, 18 percent of greenhouse emissions could be eliminated and 33 percent could be cut from average food prices in most countries.



Where Is entomophagy practiced?

Insects inhabit every continent (except Antarctica) and entomophagy has historically been practiced in many countries around the world – predominantly in parts of Asia, Africa and Latin America. Insects supplement the diets of approximately 2 billion people and have always been a part of human diets.

Approximately 80 percent of the world's countries eat insects on a more or less regular basis. Bugs are collected from forests, deserts, freshwater ecosystems, agricultural fields, and farms. Bugs are included in many cuisines around the world.



| Region | Number of species |
|---|--|
| ■ Neotropical | From Mexico to Patagonia 725 |
| ■ Oriental | SE Asia and India 578 |
| ■ Tropical Africa | Central and South Africa 470 |
| ■ Palaearctic | Europe, North Africa and China 294 |
| ■ Australasian | Australia, New Zealand, PNG and Pacific islands 101 |
| ■ Nearctic | US and Canada 95 |

Countries where insects are regularly eaten.

The fact that insects are such popular foods in the tropics has to do with three aspects:

- 1) As a food resource, insects are available throughout the year, although most edible insect species occur in different seasons. Outside the tropics, insects are not available during winter since many spend that season in diapause or quiescence.
- 2) Due to the climate and rich fauna and flora, tropical insect species tend to be larger than many other insect species found elsewhere.
- 3) Since insects are often clumped together, such as locust swarms or caterpillars in trees, harvesting is often relatively easy.

In contrast, eating insects is currently uncommon in most Westernized countries of North America, Europe and Australia. In these regions, it has only been recently that entomophagy has captured the attention of the media, research institutions, chefs and other members of the food industry, legislators and agencies dealing with food and feed.

Several companies have started to produce edible insects for these Western markets and insect-based foods (e.g., restaurant offerings) and derivative products (such as cricket flour) are being produced at a growing rate.

Challenges of adopting entomophagy in the West

The fact that only about 2 billion people have insects on their menus, and not all almost 8 billion, despite such clear health and environmental advantages of entomophagy, suggest that there are important aspects that are hindering its adoption: consumer attitudes and perceptions.

Insects are considered delicacies in many parts of the world, particularly in the tropics. In contrast, hesitation in Western societies largely stems from the ‘yuck factor’ – the view of insects as inedible is perpetuated through TV shows such as *Fear Factor*, where contestants are forced to eat raw insects to advance in the competition and show their daring.

One study reported that in Western societies, only about 13 percent of men and 6 percent of women were likely to eat insects as a meat substitute. This is the major hurdle of how to increase acceptance of entomophagy in Western cultures.

A number of insect farms and edible insect start-ups in Europe and the U.S. are trying to change that. One way to ease consumers’ perceptions is not to offer up the whole bug – which would gross out many people. But by grinding insects into a nutrient-rich powder and added it to conventional foods, such as cakes and breads, the idea of eating insects could become more palatable.

Stressing the many benefits of eating insects will not ultimately be enough to convince people to eat insects. For that we will have to enjoy them.

The example of sushi is a promising example of how perceptions of foods can change radically. Think about it: Thirty years ago, sushi and raw fish was the *eww* factor; you did not see sushi in grocery stores. Now it’s the cultural norm. Until the 1960s, eating raw fish was seen as radical and more of a niche taste. But despite the noteworthy efforts of pioneering restaurant owners that culminated in the gradual acknowledgement and acceptance of sushi’s niche in the U.S. West Coast food scene, one of the critical moments in the rise of sushi as popular cuisine was marked by its appearance in West Coast supermarkets. And the popularity of sushi exploded.



When will edible insects have their 'sushi moment'?

More perception issues come to light when we look at other popular Western foods. For many Westerners, insects are associated with filth – they go to dirty places. Funnily enough though, so do mushrooms, and we eat those all the time. And you don't want to know about crabs and shrimp and lobster. They are, like insects, arthropods – but instead of eating fresh lettuces and flowers, as many insects do (more than half of all insect species are plant eaters), they scavenge debris from the ocean floor. But while lobster is a high-priced delicacy, vegetarian bugs and critter are spurned and disdained.


Fun fact: The 6 billion people who are not fond of insects, are insect-eaters too, albeit unknowing ones, at the tune of “two pounds of flies, maggots and other bugs each year.” These bugs are in vegetables, rice, beer, pasta, spinach and broccoli. Even more fascinating is that we are actually eating them as part of lunch and dinner or drink with beer (hops may contain up to 2500 greenflies or blackflies per 10g).

The U.S. Food and Drug Administration (FDA) permits a certain number of insects and insect parts in food products because it's practically impossible to keep them completely out. The FDA's Food Defect Levels Handbook outlines the permissible amount of bugs (and other natural contaminants) allowed in food.

SIX FOODS WITH INSECTS

you didn't know you were already eating



| | | | | | |
|---|---|---|--|---|--|
|  <p>1</p> <p>Peanut Butter</p> <p>Peanut butter is allowed to contain up to 30 insect fragments per 100 grams</p> |  <p>2</p> <p>Starbucks Strawberry Frappuccino</p> <p>Starbucks used to use red dye from the Cochineal beetle to color their Strawberry Frappuccino</p> |  <p>3</p> <p>Rainbow Sprinkles</p> <p>Candies like sprinkles and Raisinettes get their shimmer and crunch from the shellac of the Indian Lac bug</p> |  <p>4</p> <p>Spinach</p> <p>50 small insects are permitted in every 100 grams of spinach</p> |  <p>5</p> <p>Beer</p> <p>The hops used to make beer can contain up to 250 Aphids (tiny bugs) per 100 grams</p> |  <p>6</p> <p>Yoplait Strawberry Yogurt</p> <p>Once again, Cochineal extract is used to color Yoplait Strawberry Yogurts</p> |
|---|---|---|--|---|--|

Culture, religion and the history of entomophagy

Food practices are influenced by cultures, which have been influenced historically by religious beliefs. The practice of eating insects is cited throughout religious literature in all major faiths. The Bible speaks of locusts as food in the book of Leviticus. Islamic tradition also refers to insect eating and specifically mentioning permission to consume locusts. The Jewish literature also mentions entomophagy.

The history of entomophagy is well documented as far back as the eighth century BCE in the Middle East and even further back to the fourth century BCE in Greece where eating cicadas was considered a delicacy.

Is entomophagy dangerous?

There are no known cases of transmission of diseases or parasitoids to humans from the consumption of insects (on the condition that the insects were handled under the same sanitary conditions as any other food).

Allergies may occur, however, that are comparable with allergies to crustaceans – if you are allergic to seafood, don't eat insects! – which are also invertebrates. Compared with mammals

and birds, insects may pose less risk of transmitting zoonotic infections to humans, livestock and wildlife, although this topic requires further research.

As with other foods, edible insects can also be associated with a number of food safety hazards including biological agents (bacterial, viral, fungal, parasitic) as well as chemical contaminants (pesticides, toxic metals, flame retardants).

Food safety risks can be higher when insects are harvested from the wild and consumed raw. Farming insects under controlled hygienic conditions and implementing sanitary processing techniques should reduce some hazards, such as microbiological contamination.

An important area of food safety consideration is the quality and safety of the feed or substrates used for rearing insects. The use of raw materials that are alternative to conventional feed are being explored as potential substrates for mass production of insects.

Some of these raw materials include food side streams such as food waste, agricultural by-products or manure from livestock farms. The nutrient content and food safety aspects of reared insects depend on the substrate, but so far there haven't been enough studies to determine the quality and safety of such side streams as well as the insects that are produced.

Используемые источники

Баранова К. М., Дули Д., Копылова В. В. и др., Starlight 6

<https://cirs.ucr.edu/entomophagy-eating-insects>

<https://www.edibleinsects.com/entomophagy/>