

# Breed)<sup>و</sup>

Empowerment of VET system through sustainable entrepreneurial initiatives in quality pig breeding



## **Motivation Guide to quality pig breeding**



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# Motivation Guide to quality pig breeding

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# Motivation Guide to quality pig breeding

By the Consortium of the BREED Project





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## > Introduction

The pig was one of the first animals to be domesticated over 6,000 years ago and the Chinese were the first to raise wild pigs for food. Nowadays pigs exist on every continent except for Antarctica but growing them is a complex occupation and requires knowledge of how to properly take care of them to ensure their well-being and environmental protection.

This **Motivation guide** is addressed to pig farming entrepreneurs (new or existing) and created to promote the positive attitude towards OER BREED VET toolkit for sustainable entrepreneurial initiatives in quality pig breeding. The toolkit consists of 14 modules, where you can find various information about pigs and other related things. These modules were prepared by the partners of the BREED project. You can find the toolkit here: <https://www.pigbreedtraining.eu>

This **Motivation guide** consists of 9 chapters which are dedicated to important aspects of pig breeding.

### **These chapters are:**

- Approach to motivate learners to undertake the training
- Basic communication skills, such as digital, language and social communicative skills
- Guidance to the digital environment
- Principles and techniques of outdoor pig breeding
- Principles of pig products - tradition, cultural heritage and market
- Principles of customers' satisfaction
- Principles of sustainability - referred to environment and biodiversity safeguarding
- Principles of sustainability - referred to community acceptance
- Steps leading from a business idea to a sustainable business achieving customers' satisfaction, environment and biodiversity safeguarding compliance and community acceptance

One of our key **aims** is to help new or existing pig farm entrepreneurs to acquire new competencies and use the knowledge in their businesses, thus each chapter offers not only theoretical but practical advice as well.

## 1 | Approach to motivate learners to undertake the training

By undertaking the training learners will be able to study 14 modules.

These modules are:

Nº	Module title
1	European, national and regional regulations on free-range pig farming
2	Alterations of soil and groundwater related to outdoor breeding
3	Nitrogen emitted to the air by outdoor breeding
4	Equipment necessary for free-range pig farming
5	Free-range pig farming techniques
6	Needs and food rationing of animals raised outdoors
7	Aspects related to animal welfare
8	Ethology of free-range pig farming
9	Health problems of pigs and other threats associated with free-range breeding
10	Stocking density
11	Quality of the meat deriving from animals raised outdoor
12	Basic marketing activities
13	Digital communication tools
14	E-Sales

## 2 | Basic communication skills, such as digital, language and social communicative skills



Competence in communication is vital for our health, our relationships, and indeed for all of the activities in which we engage as functioning humans (Hannawa & Spitzberg, 2015). Studies have shown a clear and positive relationship between effective interpersonal skills and a range of benefits such as greater happiness in life, resilience to stress and psychosocial problems.

Being able to communicate effectively is perhaps the most important of all life skills. It is what enables us to pass information to other people, and to understand what is said to us. You only have to watch a baby listening intently to its mother and trying to repeat the sounds that she makes to understand how fundamental is the urge to communicate.

Communication, at its simplest, is the act of transferring information from one place to another. It may be vocally (using voice), written (using printed or digital media such as books, magazines, websites or emails), visually (using logos, maps, charts or graphs) or non-verbally (using body language, gestures and the tone and pitch of voice). In practice, it is often a combination of several of these.

The computerization of the processes has been introduced since the early 1990s. After almost 30 years mobility, cloud computing, the Internet of Things (IoT), augmented reality, social media and decentralized public ledgers of transactions like blockchain are driving enterprises to new digital customer engagement and IT enabled processes.

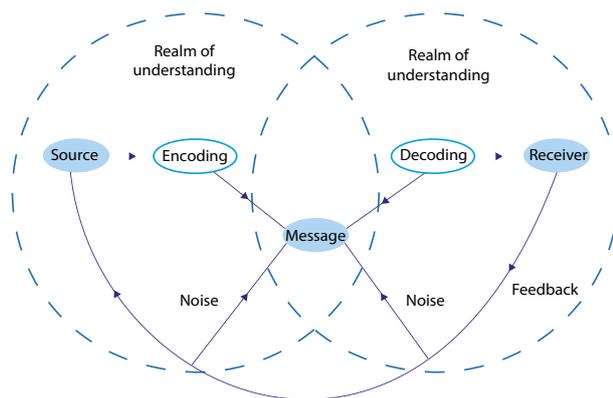
From the mid-2000s until today, smart devices and social platforms have been strongly influencing communication methods and opening new communication channels with customers. Digital communication encouraged high expectations regarding multi-channel availability and revolutionized the Customer Service Experience within the “Customer in the Center” and real time communication approach. Within the rise of new technologies, all industries are conducting various initiatives to discover and exploit technological benefits.

## Communication and digital communication forms

### Overview and definition

Communication can be defined as “transmission of information, ideas, attitudes, or emotion from one person or group to another (or others), primarily through symbols” (Theodorson & Theodorson, 1969). The message which holds the core value of the process refers to information illustrated in words, signs and signals (Nordquist, 2017). There are other important components includes source, encoding and decoding process, receivers and others contribute elements, which are demonstrated in figure 1. Despite the straightforward components of the model, the success of the communications depends on the links of these factors.

Figure 1. A linear model of communication



The rapid development of digital technologies especially the Internet and its application, mobile device technology has enabled communication to take place in the new forms and channels besides familiar ones like newspaper, television, books etc. which are also be known as traditional communication. The term digital communication refers to any type of communication happening within the sphere of a digital environment through the electronic medium. It means when having any conversation or information exchange on Internet or telecom, people are digitally communicating.

### Forms of digital communications

Due to the development of high technology, numerous forms of communications have been used for digital transmission in variety media types and vehicles. When mentioning digital communication, people usually think of Internet as the most popular instance. However, the digital age has brought society more tools than just the Internet. The following part lists out some main forms of digital communication that take a prominent role in business environment nowadays.

#### • Internet and Emails

The Internet, which is known as the network connecting different computers worldwide, is a huge communication channel with estimation of 972 million online population in 2007 (Philip Kotler, 2008). Email, on the other hand, ever since its first introduction in the 1960s, has been considered the prominent tool of digital communication in both public and private environment.

**• Mobiles phones**

In the past, mobiles phones only had call and text messaging (SMS) as communication methods. Thanks to the breakthrough of smartphone with 3G and Wi-Fi in the mid-2000s and 4G and 5G in recent years, cellular phones have transformed itself into digital transmission devices with multiple practical communication types. Multimedia messages, voice and video calls are now available through this electronic medium.

**• Physical digital media**

The increasing needs of digital transmissions require people to store data electronically. Digital files are exchanging daily in the online environment. It is also a form of engaging digital communication among human beings.

**• Social media**

It is necessary to mention the revolutionary impact of social media platforms to digital communications. Since this form of communication has a critical role to the research study, it is discussed thoroughly in the next part with adequate information.

**How to Improve Communication Skills through a Screen**

From an interpersonal perspective, any type of positive communication is healthy. Here are a few tips for improving communication skills in a digital world:

**Use social media**

Social media is one of the best opportunities for effective communication in the digital world, and is often regarded as the best way to build or grow relationships on the internet. To begin improving your digital communication skills, social media is an excellent place to start. The most effective social media platforms for professional communication are Facebook, Twitter, and LinkedIn. Facebook is the most complete social experience and incorporates photos, videos, messaging, and virtual groups. Twitter is perfect for brief conversations and reaching out to people you may or may not know. LinkedIn is essentially the “business version” of Facebook and is a great way to network within your industry or career field.

**Web conferencing opens up new possibilities**

For businesses, web conferencing has opened up a world of new opportunities.

Using resources like Zoom, you can hold effective business meetings with employees, clients, and board members, regardless of physical location. Taking advantage of web conferencing resources will enable better communication while on the road or out of the office.

**Skype to stay in touch**

Along the same lines of web conferencing, Skype and other video chat sources can help to develop personal relationships while physically separated from the other person.

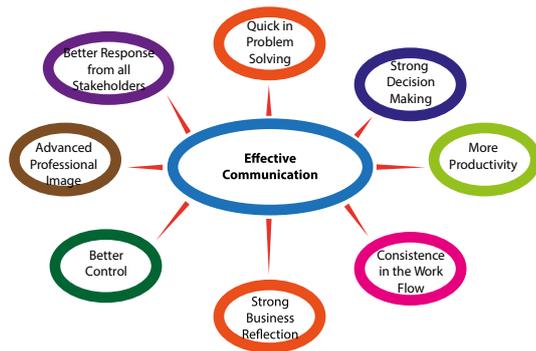
These digital tools are closest to “real life” communication. Not only can you use your voice, but with video chat, you can also read body language and show expression.

Here is a great overview of why communication skills are important.

As the leaders of their organizations, CEOs are expected to effectively communicate with their stakeholders, customers and employees.

Always being in the spotlight, however, requires a certain communicative skill set. You have to ensure that employees are happy and that everyone feels like they're in the loop on key company happenings too. In essence, it's your job to set the tone for the entire organization.

Figure 2. Importance of communication skills



### 1. Be relatable.

Every successful CEO makes a special effort to get to know his or her team as individuals. Get into the practice of walking around your office or engaging in informal chats. Show interest in your constituents' (can include employees, partners and customers) lives and be willing to share some details about yours. The lower your pedestal, the more they'll rally behind you. --Alexandra Levit, Inspiration at Work

### 2. Emphasize your key points through repetition.

I've been in so many banquet halls listening to some of the greatest leaders in their industries today wax on about their approach, and what they say is brilliant -- but I consistently have difficulty with remembering their key points. I never want to be this way as a leader and especially as a speaker, so I try to repeat key bullet points for emphasis so that no part of my argument is lost. --Rob Fulton, Audio Luminaries

### 3. Actively listen.

Part of great communication is actively listening. The best communicators I know are also the best listeners. By listening, you respect the person with whom you are speaking and you also hear and understand their point of view. You can then articulate a response that is meaningful. --Andrew Thomas, SkyBell Video Doorbell.

### 4. Remember that you're always "on."

You're always on, no matter where you are. Everyone is always watching you and you should be prepared in everything you do. Great communicators are always prepared for the unknown: be that person. --Peter Daisyme, Hosting

### 5. Adapt readily to any situation.

Oftentimes as the CEO you have a clear picture of where you want to be, how you want to get there and what steps are needed to achieve your goals. When communicating with others, you have to keep in mind that sometimes you have to adapt to the situation, especially if it isn't one that you are pleased with. --Stanley Meytin, True Film Production

### 6. Put your audience at ease.

Great communicators have a way of disarming their audience in order to put them at ease. Ever notice President Obama's use of the word "folks" instead of "people," or how he intersperses his speeches with the phrase, "you know?" Those are two good examples of how a great communicator attempts to put his audience at ease with calming language or colloquial phrasing. --Andrew Schrage, Money Crashers Personal Finance

Communication skills are needed in almost all aspects of life:  
the professional must have the ability to interact effectively, with clients and other professionals.

### Developing Communication Skills

Good communication skills can improve the way that you operate through life, smoothing your way in your relationships with others.

### The Value of Digital Communication

Begin by asking a few questions. What does communication mean? More specifically, how important is digital communication in your life? Whether in personal life or in a business setting, conversation and engagement have, in many cases, moved primarily from face-to-face to digital in nature.

In the business world, communication is an extremely important component of success. It adds value to companies' services and products, establishes authority and voice, and makes it simple to gather necessary feedback from customers.

Communication is the process of exchanging ideas, feeling, information, knowledge, facts, opinions, and emotions between a sender and a receiver. Effective communication is sending the right message to the right receiver at the right time via the right channel in order to change the receiver's knowledge, attitude, and behavior. They are a common challenge to individuals, groups, international companies, governments, nations, and the whole world. The future of individuals, groups, societies, and nations depends mostly on their ability to communicate effectively with others in a globalization and communication era.

## 3 | Guidance to the digital environment



Whatever the vision of a company's future, in order to grow, it must involve transformation. As digital technologies offer new ways to connect, collaborate, conduct business and build bridges between people, it touches the core of all business functions and even the ways organizations are managed.

A digital environment is an integrated communications environment where digital devices communicate and manage the content and activities within it. The concept is based on digital electronics systems which are integrated and implemented for a global community. Major components of a digital environment generally include websites, cloud servers, search engines, social media outlets, mobile apps, audio and video, and other web-based resources.

A digital environment in business includes every resource that is either a computer, mobile device, or electronically-based resource in the organization in an integrated system. If an organization conducts business activities through the Internet or any other electronic-based communications system, including websites, e-mail, search engine optimization strategies, social media marketing, podcasts, webinars they are conducting these activities in a digital environment. As they conduct these activities within their digital environment, they deal with interactions, transactions and relationships with other organizations' digital environments. Ultimately, the global business community participates in a comprehensive digital environment.

Most digital businesses focus on creating value at new frontiers for their core business, or they use digital technology to drive growth, revenue and performance in ways that were impossible with

traditional models.

It may be helpful for companies to review common elements of digital business and compare them against their own business models. These are some of the trends that differentiate digital from traditional processes.

**Use existing technologies** to cut costs, gather data and provide a better customer experience. Digital businesses focus on the competitive advantages that technology gains them, whether that's reducing overhead or providing new value to their customers.

**Embrace the concept of** digital transformation and the cultural shifts that requires. The implementation and management of digital services can necessitate organizational restructuring, especially as new roles are created and IT is given greater input into strategic decisions.

**Explore new business models** that put customer experience at the centre of digital strategy. People are often willing to spend more for an exceptional customer experience, making it a key differentiator in the digital economy. Business models that align with this hyper focus on customer satisfaction will eventually centre on digital services, since digital is increasingly the experience that people prefer.

Module 12 which is called Basic marketing activities proposes the idea that a website is necessary for any business. A website is cost effective and reaches a wide number of customers. It is especially good geographically when it is impossible to come and check the products, in this case animals. Whether the site is used as a static farm brochure to get farm's name out or actually sell products online, a website can help to take marketing to the next level without a huge investment. Responding to emails quickly is also very important, especially nowadays when people want to get information as fast as possible. All the communication channels are important in business and it is necessary to invest in that in order to reach more people.

Moreover, be smart and keep pace with innovation. For example, nowadays all of us have smartphones and we use various apps mainly for communication, but these apps can also be used for advertising (e.g., Instagram, Facebook and etc.) Also, through these apps you can connect with customers and find new ones. They can watch your short stories (for example on Instagram or Facebook) and see your animals and other things related to your farm. One more extremely popular platform is YouTube, where you can share longer and more comprehensive videos about your farm or even use it to search for other farmers' experiences and learn something from them.

Also, new apps are created constantly and these apps are dedicated explicitly to farmers to allow them to monitor and manage animal production from relatively anywhere they want, resulting in improved production efficiencies and animal welfare.

#### **A few apps for pig breeders:**

- **The Practical Pig app** from AHDB Pork provides access to a range of short video clips that demonstrate practical management techniques on farm. Written, narrated and demonstrated by industry experts, the videos show stockmen and managers how to complete important everyday tasks to help boost their pig production.
- **The Show Pig app** from Zoetis provides users with a useful herd management tool designed to help pork producers with recommended breeding and vaccination protocols, dates and reminders.
- **FeedSmart app.** Taking into account key variables, such as maintenance requirements, animal growth, lactation and more, this free calculator can provide farmers with instant information on

their livestock's nutritional needs, feed values and feed allocation.

- **FarmHedge app.** For an all-around app that connects farmers with multiple sectors of the agriculture industry, this real-time agribusiness app puts users directly in touch with suppliers of feed, fertilizers, parts and more. It allows producers to create personal and secure working relationships while also saving them time and money.

In conclusion, our world is impossible without new technologies. Nowadays, it's the businesses that adapt and adopt are more successful, therefore, going digital is a necessity. Animal breeders that don't respond to market changes brought about by innovation, because of a fixed mindset or because of fear, tend to miss out on opportunities to further develop their business.

## 4 | Principles and techniques of outdoor pig breeding



The basic principle of free-range pig farming is to provide animals with free access to large areas of land, which is associated with great use of the natural resources of soil and plants. In this rearing system, pigs can fully display their natural behaviour. Still, it is necessary to manage the environment properly, follow the rules characteristic of this rearing system and use specific production techniques. Therefore, the selection of the location of the farm, optimal design of the area available for pigs, separation of quarters, fencing, protection against contact with wild animals, ensuring access to water, feed, and shelter, care for health, welfare, breed selection, and maintaining the correct animal density is significant.

In areas designated for free-range breeding, there should be places where pigs are provided with water, fodder, places to rest, shelter, burrow, cool the body (muddy places), scratch, and defecate. Pigs often scratch against trees and roll in the mud, which keeps their skin in good condition and helps remove parasites. In addition, mud baths keep animals cool during hot weather, which is essential as pigs have no sweat glands except for those on the shield of their mouths.

Pigs are active mainly in the morning and early evening when they spend most of their time looking for food. Usually, they rest after dusk, and their activity is synchronized in social groups. Pigs like to keep physical contact with each other and often lie in contact when sleeping and resting. This behaviour reduces heat loss. Social behaviour is highly developed in pigs. A stable hierarchy quickly forms in the herd. Aggression in free-range breeding is rare but can occur when food is less available.

Pigs kept in a free-range system experience lower stress levels as they have greater freedom of movement and natural behaviour, which helps them stay healthy. The level of stress also depends on the way animals are handled. The farmers' empathy and patience are essential. In addition, producers should be knowledgeable about pigs and their requirements and have a good sense of observation to help identify signs of disease or welfare disorders. Finally, it is crucial to check the animals regularly and adequately.

In free-range, disease control is more difficult despite the use of biosecurity techniques. Therefore, it is assumed that disease prevention should be achieved by using the natural immunity of the pigs, which is demonstrated by local or traditional native breeds. An essential principle in this rearing system is rotation, where pigs are moved to new pastures or quarters. Doing so helps to break the life cycle of the parasites and reduces the accumulation of pathogens in the area. In addition, in this rearing system, herds and working groups are usually smaller, which means a lower stocking density than intensive pig rearing, which helps to reduce disease transmission between individuals.

Free-range pig rearing requires planning the layout of rearing areas to consider rotation, the ease of moving pigs between paddocks, quarantine zones or paddocks for sick pigs, and optimizing the staff's work. The fencing of the farm and quarters must be solid, durable, of an appropriate height, preferably electric fencing. Mesh, wire, panels, or their combinations can be used. Fences must prevent pigs from jumping over, undermining, or crawling under the fence. Mobile elements are sometimes used to separate the paddocks. A high-quality, durable fence is recommended on the farm's exterior perimeter to keep pigs from escaping and prevent pigs from coming into contact with wild animals. Free-range pigs must have access to a dry, clean, shaded shelter (e.g., a hut) at all times, protecting them from rain, wind, heat, and cold. It is advantageous to cover the shelters with bedding in colder climates and hot climates, good ventilation. Regularly changing the location of the huts will slow down the degradation of soil and plants. All pigs must be fed with a feed appropriate to their nutritional needs. Pasture alone does not provide enough forage. Young animals and all pigs in cold weather require additional feed. In addition, pigs must all the time be provided with drinking water of adequate quantity and quality.

Many practices can solve specific breeding, organizational, and production problems. One breeding practice uses native breeds such as Gloucestershire Old Spot, Saddleback, and Tamworth, whose sows show a stronger maternal instinct. However, they have fewer litters, but the piglets are more vigorous and have a better chance of survival.

An interesting organizational practice is keeping young sows in individual farrowing booths fenced with electric wire, which helps reduce the piglets' mortality. This way, piglets are protected from other sows' which may enter the hut. On the other hand, the deliveries of experienced sows can take place in group pens.

In colder climates, an excellent example of good practice is to make only one opening in huts used to prevent drafts. At the same time, a large amount of litter should be ensured and its replacement in case of getting wet. In Sweden, the delivery booths are situated on gently sloping paddocks to facilitate the free flow of water, which helps to keep the litter dry. In the UK, huts are often painted with reflective paint to prevent overheating in the summer.

Another example is training young or purchased pigs to respect fencing adjacent to their enclosure using electric fencing in a small training enclosure.

A good practice is to reduce feed losses by using feeding troughs, feeders, or a concrete slab instead of putting feed directly on the ground. It is also better to use pellets than flour. It is good to use feeders with flaps covering the container to prevent the feed from getting wet or install feeders under a roof.

Free-range pig farming has both positive and negative effects. The benefits relate to the value of the products obtained from animals kept under good welfare conditions. In addition, the quality and taste of meat and products are unique and appreciated by consumers. The advantage of this production system is the possibility of conducting it in mountainous areas, difficult to develop in any other way, and protected areas. The negative aspects of this breeding system result from the need to allocate large land areas and the negative impact of production on the ecosystem. Effects include damage to

vegetation, extensive soil deterioration, e.g., changes in soil structure, texture, and composition. A significant threat is the presence of pathogens in the enclosures, which, combined with demanding environmental conditions, may result in more frequent infectious or parasitic diseases. That is why implementing biosecurity measures and animal health management principles at free-range farms are more challenging. However, the use of appropriate breeding techniques successfully prevents and even eliminates most of the threats. Effective methods of counteracting threats include the use of rotation, quarantine, and vaccination programs.

Free-range pig farming is an answer to the changing preferences of consumers, who are increasingly looking for unique, high-quality food products for which they are willing to pay a higher price. Buyers expect meat produced at farms that comply with strictly defined rearing standards, including feeding and the living conditions of the animals. The raw material obtained from pigs reared in a free-range system is most often used locally to produce regional and traditional products, supporting the region's development and protecting cultural heritage. Furthermore, a free-range pig breeding system enables production in less-favoured or protected agricultural areas, thus preventing the depopulation of these areas. At the same time, the use of rustic, local breeds or their hybrids, adapted to challenging environmental conditions and showing good resistance to diseases, contributes to the protection of endangered genetic resources. Thus, free-range pig farming is considered to be economically, socially, and environmentally sustainable. From an economic point of view, it generates farmers' income in the regions where it is located. From an ecological point of view, it contributes to the preservation of the ecosystem. On the other hand, farms play an essential role in preserving cultural heritage and developing less-favoured areas from a social point of view.

## 5 | Principles of pig products – tradition, cultural heritage and market



The history of pig farming goes hand in hand with the history of man. In Europe, China and India, fossil remains have been found that date back to the period beginning from the Miocene to the Upper Tertiary. The taming of the pig and the first forms of farming date back to 3,500 BC. in Mesopotamia (Iran and Iraq). In Italy, the Romans used salting and smoking for the preservation of pork. They were the first to use sausages to favour a long shelf life of food. At the beginning of the Middle Ages, pigs were still raised in the wild in the oak and chestnut woods, only in the Late Middle Ages did they begin to practice stable breeding with still rudimentary methods and techniques. This is where the tradition of pig farming was born and the genetic roots of some of the most typical and indigenous breeds date back to this period.

The primitive phase of transformation, entirely handmade, has progressively developed up to the present days towards an industrialization process which, by significantly improving the hygienic conditions, has been able to keep the traditional characteristics of the product intact.

There are several factors that contribute to the production of high-quality meat. Among these, a key role is played by some key elements of the pig rearing phase, including: the breeds and nutrition. Intensive and extensive methods can generally be used in pig farming. Each breed has its own and peculiar characteristics for prolificacy, adaptability, production results and characteristics of the meat.

There is no breed or breeding method better than another but simply a breed more suitable in relation to the final use of the raw material, the management techniques, the place of production, the facilities owned by the breeder, the needs of the market. Often in the choice of the breed, especially in small farms, not only the zootechnical or economic parameters but also factors of affection or personal convictions of the individual breeder take over. The native breeds (e.g., in Italy Mora Romagnola, Cinta Senese, Casertana, Sarda, Calabrese, Black Pig of Parma) are particularly suitable for outdoor farming because they are breeds that show good rusticity.

From fertilization to subsequent sale to the slaughterhouse, the pig is treated at every stage of its life, with a structured diet according to the needs of the moment and the final product. Special attention is paid to the welfare of animals, both from the point of view of health and hygiene, but also in everyday life, with tools and environments that stimulate the animals and promote their growth and their needs. The management phase, the choice of the type of breeding and how to manage animal welfare can prove to be crucial elements that greatly influence the quality of the final product.

The slaughtering phase is one of the most delicate of the entire supply chain, for this reason, particular attention is paid at every moment of this phase, from the transport of the animals to the slaughterhouse, to the killing, to the processing, up to the sale of the finished product to the companies, distribution or processing.

The transformation of pork is divided into the first transformation, essentially consisting of slaughtering and cutting to obtain cuts of fresh meat, and in a second transformation relating to the production of cured meats. The carcasses are processed and a new check on the meat and offal is carried out by the veterinary service, in order to guarantee their food use. Once its healthiness is guaranteed, the carcass is sent to the subsequent stages of slaughter, where new cuts are made and the separation is made between the parts that will be used as fresh meat and the parts that will instead be sent as raw materials for industries. of transformation.

The term salami refers to a very broad category of raw or cooked meat products and foods, almost always with the addition of salt, sometimes animal fat, herbs and spices and possibly other ingredients and preservatives. The cured meats can have different recipes and different preparation methods that vary from territory to territory, but also from product to product. These are long-life foods, which can be consumed even after long periods of time.

Prosciutto is the cured meat obtained by salting and maturing the hind leg of the pig. The etymological derivation comes from the anatomical name of the part of the pig that is involved in the transformation process. This part of the pig is used all over the world to create various gastronomic products, among the most valuable there are two Italian products: raw ham, which is among the most famous and exported Italian food products in the world, and cooked ham, abundantly consumed throughout the national territory.

Traditional Italian delicatessen products represent an excellence of Made in Italy agri-food. In Emilia-Romagna, tradition and passion characterize the companies that for decades have been carrying out the methods of preserving and maturing high quality products, such as hams, salamis and sausages of various kinds. Of the 43 recognized PDO or PGI products of the region, 11 are attributable to the pig production chain and all derive from the transformation, according to strict rules, of pork parts or sausages. Among the excellences of the sector, we can mention: Mortadella di Bologna PGI, Salame di Cremona PGI, Cotechino di Modena PGI, Zampone di Modena PGI, Coppa Piacentina DOP, Pancetta Piacentina DOP, Salame Piacentino DOP, Culatello di Zibello PDO, PDO Parma Ham, PDO Modena Ham and Italian Salamini alla Cacciatora PDO.

The environment and the territory play an essential role in this process. The air and its humidity, the land where the factories are located, the breezes that run through the hills and the plains, are all elements that do not perform a minor task, but actively contribute to the creation of the product and the long maturing phase. It is then the know-how of the companies that are able to exploit all these factors in a unique, wise and efficient way to turn them to their advantage and complete the process. The European Union has a role of primary importance in the world market for pig products, holding the leadership in exports with over 4.7 million tons sent to third Countries. Germany and Spain are the main producing countries, accounting for 44% of the total supply, followed by France. Italy is in seventh place, with a share of less than 5% of the total.

At the present time (2021), however, the trend in per-capita consumption of pork is subject to a decrease in favor of poultry meat, not only less expensive, but also perceived as healthier. In particular, as regards the European Union, a reduction in per capita consumption of pork by 1.6 kg is expected for 2030 compared to 2019 levels.

The consumer, indeed, is increasingly influenced by negative media messages, to be countered by highlighting not only the nutritional and gastronomic characteristics of pork and preparations, but also the characteristics of safety, healthiness and sustainability in all stages of the supply chain.

In addition to this, the dynamics of the pig sector at a global level are characterized by great uncertainty, mainly caused by the unpredictability of the effects of the spread of African Swine Fever (ASF) both in Asia and in Europe.

Pork farming and meat processing have ancient origins, evolving over time have led to the spread of traditional products of excellence in Italy and in the rest of Europe where this farming is also practiced. For survival, but even more so for the development of the pig production chain, it is of vital importance to highlight the enhancement of the environmental sustainability of the various phases, combined with greater attention to animal welfare.

The existence of extensive outdoor farms, of native breeds, which generally operate in disadvantaged areas also from a territorial point of view, contribute to the maintenance of an ancient genetic heritage and a zootechnical biodiversity that must be safeguarded and developed.

## 6 | Principles of customers' satisfaction



Customer satisfaction is the highest priority in today's business environment so it is extremely important to take care of your customers, so they would keep coming to your business and spread good recommendations to their family, friends, colleagues, etc. The key purpose of this topic is to explain what makes customers satisfied and how to measure it.

Customer satisfaction is defined as a measurement that determines how products or services provided by a company meet customer expectations. Customer satisfaction is one of the most important indicators of consumer purchase intentions and loyalty. These days, companies place the utmost

importance on their customer's satisfaction. Recording, analysing and working productively to increase their customer satisfaction helps them retain old customers and acquire new ones. Businesses conduct reviews on customer satisfaction survey software to evaluate whether customer expectation, business model and execution align. Prioritizing your customer's needs is healthy for a successful expansion of the business. By gauging customer happiness, a business can find areas that need improvement and work on them.

### **The key principles of customer satisfaction**

First - customers care more for details. We might think that customers value "the main thing", but in reality, they will be delighted or disappointed based on some detail you don't even think of. Therefore, attention to details is very important.

Second - perception is the only reality. You may think you have the best quality or service or packaging but if your customers don't perceive it like you do, they will not be satisfied.

Third - personalization and recognition is key. The best feeling customers may have is to be remembered, addressed to by their name and truly appreciated.

Fourth - listening and reflecting. Active listening is very effective in dealing with disappointed or even angry customers. It also works while trying to detect their needs and wants and imagine effective solutions to their problems.

Fifth - taking charge of needs, wants and problems. Being attentive and caring is not enough. Customers want effectiveness. It's rather difficult because they want clear, quick and direct solutions to their problems.

Sixth - explicit expression of satisfaction or dissatisfaction. Always probe and get customers to tell you about their opinion, eyes in eyes. If they're not happy, you will know and you can work on it. If they are, they will be more delighted to tell you that you were good.

### **Ways to measure customers satisfaction**

Customer satisfaction (CSAT) is an important customer experience metric to understand how your customers feel about your products or services. Connecting with your customers is the only real way to measure customer satisfaction. One of the most common methods of measuring customer satisfaction is through surveys.

Respondents record their feedback via multiple-choice questions, rating questions, open-ended questions, etc. Customer satisfaction measurement tools can help you gather real-time insights through online surveys and deliver excellent experiences.

Some of the leading metrics that can help you record customer satisfaction and boost your organization's journey towards delivering great customer experience memories:

#### **Use Customer Surveys**

To get accurate feedback and actionable items for customer satisfaction, survey your customers soon after the utilization of the service or product. There are different ways by which an organization can conduct customer surveys: Online surveys; In-store surveys; Feedback forms; Offline surveys over the phone etc. Remember that your customers are very busy, and most of them hesitate to fill in surveys as it takes their precious time. To counter this, your surveys should be clear and specific.

#### **Measure Customer Satisfaction Score**

The Customer satisfaction score measures the short-term happiness of your customers. The scale

typically ranges from highly unsatisfied to highly satisfied: Highly unsatisfied; Unsatisfied; Neutral; Satisfied; Highly satisfied.

The above scale asks the customers to rate the service received from 1–5, where 1 represents customers who are highly unsatisfied and 5 represents customers who are highly satisfied. Once the score is collected from the desired number of customers, the average number received is the CSAT score you can relate to. A higher CSAT score means higher customer satisfaction. But it has a limitation, as it only measures the recent transaction with the business.

### Measure Net Promoter Score

Imagine a situation where your customers are satisfied with your offerings but are not ready to recommend your business to others. Such a situation arises when they are not sure of your longevity to keep them happy. To measure results and track customer loyalty, Net Promoter Score (NPS) was introduced. NPS measures the probability of a customer referring your business to someone. Thus, it does not measure short-term happiness as the customer is bound to think about the service provided to them over a time period and refer to a friend only in case of consistency. Thus, a simple question under NPS would look like:

Will you recommend us to your friends? 0–6 (Not a chance) – detractors; 7–8 (Maybe); 9–10 (Very Likely) – promoters. To calculate NPS, just subtract the percentage of detractors from the percentage of promoters. A high percentage means that your customers have developed a sense of loyalty towards your brand and are ready to take your places, but a low percentage would mean that your customers believe you lack consistency to keep them happy.

### Track Customer Effort Score

The Customer Effort Score (CES) tells a different side of the story, where a customer is questioned about the amount of effort, they have to invest in order to interact with the company and get their issues resolved.

In conclusion, customer satisfaction is what makes or breaks any business. If your customers are happy, they return again and again and recommend you to others. But if they are not happy, they stay away, and tell everyone else how unhappy they are. And in the age of social media, word of mouth goes farther and sticks around longer than it used to.

## 7 | Principles of sustainability – referred to environment and biodiversity safeguarding



Sustainable development is the strategic objective for the present and future of our country. A current concept of development cannot fail to take into account:

- the protection of water and the sea;
- the protection of biodiversity - flora and fauna and ecosystem services;
- sustainable food;
- the green economy;
- waste management;
- sustainable land use: pollution, soil consumption;
- adaptation to climate change: hydrogeological instability.

Every activity, including agro-livestock, is in some way affected by the above aspects.

Actions to safeguard the environment and biodiversity originate from a range of knowledge and experience that may be quite distant from each other, but are interdependent and interconnected:

- history: in all historical phases, the environment has had a radical influence, more than any other factor, on the evolution and changes of civilizations;
- geography: the life of a territory, the maintenance of its geophysical and geopolitical diversity, are directly linked to the virtuous environmental behaviour of the people who live there;
- science and technology: scientific knowledge originates directly from environmental knowledge and reinforces its protection. There can be no technological progress that neglects respect for the environment: this applies to major political and industrial decisions, as well as to the daily choices of operators and citizens.
- legislation: EU regulations and directives, national or regional regulation, etc. that regulates, guides and governs agro-livestock activities in this field.

With these notions in mind, sustainable development aims at the proper management of agro-ecosystems by means of an:

- mitigation of soil degradation and erosion - e.g., introduction of cultivation techniques that ensure the correct and balanced use of the elements soil, air and water;
- mitigation of the simplification of the agrarian landscape - e.g., activation of a set of practices across the board: from the recovery of abandoned elements, to the preservation of historical evidence, to the reintroduction of traditional components and cultivation methods;
- mitigation of the alteration of ecological processes caused by chemical fertilizers and herbicides - e.g., introduction of integrated, organic or biodynamic cultivation methods or techniques that have as their cornerstone the conservation of the soil and its fertility, linked to the water cycle, hydraulic-agricultural systems, tillage and the choice of cultivation plans and the heterogeneity of the biocenosis;
- mitigation of water resource reduction - e.g., adoption of more modern and efficient irrigation systems and techniques that improve soil drainage capacity, rationalization of water collection and use, maintenance and increase of humus content in the soil.

Examples of sustainable livestock management:

- planting of diversified fodder crops according to the specific needs of each species

- preference for extensive semi-wild farming methods, with rotation of pasture land;
- determination of sustainable livestock stocking rates according to fertility and soil type, local climate and altitude zones;
- replacement of pesticide treatments containing chemical molecules with phytotherapeutic products to protect entomofauna, the food base for various bird species;
- breeding local breeds, because they are more rustic and to counteract the genetic erosion to which they are subjected;
- use of animals registered in herd books and, in general, improvement of the zootechnical genetic heritage through the use of suitable breeding animals;
- health monitoring of farms in addition to the normal control and state prophylaxis provided for by current legislation, so as to detect any aetiological agents in time and avoid contagions and late recourse to drugs.

Sustainable development in safeguarding and conservation is achieved through the adoption of good agricultural and animal husbandry practices, which generally aim at:

- to contribute to the protection of the territory, reducing the environmental impact of human interventions through careful management of agricultural and livestock activities;
- to propose models of sustainable agriculture and animal husbandry from an economic, environmental and social point of view;
- make farmers and breeders aware of their fundamental role in protecting and preserving biodiversity and of the need for their active involvement, also facilitating communication with public administrations.

The actions to be put in place aim at:

- to a temporal and spatial flexibility in order to take into account the variability of agro-pedological and climatic conditions, new knowledge in the environmental sector, improvements in cultivation techniques and in the treatment of zootechnical waste and biomasses of different origins, changes in the direction of the market of agricultural products, as well as new techniques of animal breeding and nutrition;
- to differentiate themselves in relation to the morphological characteristics of the territory and the different traditional agronomic methods of crop cultivation and breeding.

The concept of sustainability and environmental and biodiversity protection can also be applied to free-range pig farming: the use of local breeds, as well as the maximization of animal welfare and ethological respect, correct stocking densities and land rotations, the use of appropriate protective fencing, the use of meat for the production of typical and traditional products, all testify to the fact that an approach that is not exclusively linked to maximizing production, but also takes environmental sustainability aspects into account, is a winning weapon in a market that is increasingly attentive to ethical and environmental aspects.

The importance of the above is demonstrated by the fact that, in the on-line training modules of the

Breed course, these concepts are in fact addressed and extensively argued.

In conclusion, it can be said that sustainable management of natural resources should include restoring, preserving and enhancing ecosystems, promoting resource-efficient farming practices, and low-carbon and climate-resilient agriculture.

This rests on three fundamental pillars:

- sustainable food production, by increasing the competitiveness of the agricultural sector and the profitability of production;
- sustainable resource management, to ensure the production of public goods and counteract the effects of climate change;
- balanced territorial development, to enhance the differentiation of agriculture and rural areas.

## 8 | Principles of sustainability – referred to community acceptance



The overall long-term direction in food production seems to be focused more and more at sustainability. Consumers request products that are part of a sustainable production environment. Mass production of anonymous products is no longer favoured, not even if the price is the most competing price available. Consumers like a product that is produced with respect. A natural product that is appreciated the most nowadays. A product that comes with a matching story and eating experience. This makes it necessary for breeding organizations and producers to focus more on a balanced approach with respect for people, animals and the planet.

Over the last two decades, increasing numbers of consumers demanded ethical production systems and claimed to refuse to buy products that did not meet animal welfare concerns. Therefore, much more attention at the moment is given to it. Animal welfare includes its physical, mental state and animal's behaviour as well. Good animal welfare implies both fitness and a sense of well-being and that the animal must be protected from unnecessary suffering. To attain satisfactory animal welfare, animals need to be provided with responsible care, proper housing, prevention and treatment of diseases, adequate management, nutrition and human handling. Overall, animals should be kept in a stress-free environment where they are free to express their behaviour.

Consumers not only expect that animals' welfare is assured but also that the final product would meet their expectations. Although it is much more complex than it seems. Within the production chain, each single sector has different needs than the others, they must respect the needs of the forthcoming sectors and, at the same time, all must respond to the consumer needs. This highlights the considerable difficulties in managing the production system since the needs are very often in contrast with each other. In the meat production sector in general, and pork in particular, the term "quality" takes on a very broad meaning that includes numerous characteristics whose importance varies

according to the needs of the individual stages of production and, frequently, over time and in space according to the lifestyle of consumers and their economic resources.

The pork production system, can be included in three distinct moments:

- an initial phase which aims to produce a sufficient quantity of meat to satisfy the demands of consumers;
- an intermediate phase in which, once the quantitative objective is met, efforts are concentrated to optimize the production process;
- a third phase, the aim is to obtain a product with high quality characteristics, while not neglecting production costs.

Thus, breeders are forced to manoeuvre among many aspects to meet the needs of consumers, assure animal welfare and sustainability.

Module 7 presents the ways to achieve animal welfare. Including advice regarding food and water consumption, climatic conditions, proper housing, bedding, proper space requirements, need of expressing normal behaviour and socialising. All this valuable information including advice and good practices can be used when starting a new business.

In addition, in Module 11 the main aspects regarding quality of the meat are discussed. It includes aspects related to genetic improvement, crossbreeding, quality aspects related to colour, texture, flavour etc. Everything is presented in a clear and detailed way so that students could learn about the most important aspects and avoid mistakes in their future business.

To conclude, all the aspects are discussed in detail in Module 7 and Module 11. After studying those modules students will be able to describe animal welfare principles and related impacts, apply indicators to assess animal welfare, design farming schemes to support animal welfare, considering various issues and legislation and most importantly adopt the idea that animals have the right to welfare which is so important to consumers nowadays. Moreover, students will learn how to analyse and evaluate the importance and relationship between the quality of the raw material and the processed product. Also, they will have one more tool to be able to adapt and calibrate any product enhancement needed for their own experiences.

## **9 | Steps leading from a business idea to a sustainable business achieving customers' satisfaction, environment and biodiversity safeguarding compliance and community acceptance**



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Businesses, even small ones, can have a surprisingly big impact on the environment. As a business owner, whether this impact is positive or negative is up to you. Business sustainability is a growing

practice in the minds of companies with environmental consciousness.

Furthermore, consumers are also more willing than ever to invest in non-toxic, environmentally friendly products to protect their families and the future of the planet. So today, businesses of all sizes are choosing more environmentally sustainable practices in response to climate change, and their customers are noticing it.

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. Those goals aim to tackle climate change, preserve our oceans and forests, and improve health and education. Moreover, the United Nations also formulated five basic principles that fit into all SDGs, the five Ps. There are four general Ps: People, Planet, Prosperity and Peace. These principles provide good benchmarks for measuring progress in all SDGs. But there is also one process-oriented principle: partnering.

The SDG Compass (SDG Compass) guides companies into aligning their strategies as well as measuring and managing their contribution to the realization of the SDGs. It also contains a repository of business tools. This website is developed by the World Business Council for Sustainable Development (WBCSD). The SDG selector (PWC SDG selector) is a tool to help you select your organization's criteria; choose from impact, opportunity, and territory for suggested activities.

For the business world, embracing the SDGs is smart business and reveals a lot of opportunities. So where should we start? We will start with the SDGs related to the retail and consumer industry impact. Such SDGs are "Responsible consumption and production", "Clean water and sanitation", "Climate action" etc. and they are prerequisite for well-functioning societies and economies.

In the last four years, firms leading action on climate change have financially outperformed the global benchmark by six percent. At a basic level, operational improvements to reduce greenhouse gases can lead to vast cost reductions and reduce dependency on natural resources.

For instance, WhiteWave Foods Company headquarters have received the ENERGY STAR label for four years in a row for demonstrating measurable cost savings in operation, saving 37 percent per year in annual energy costs due to upgrades in their facility. Moreover, as part of Monsanto Company's efforts to reduce greenhouse gas emissions, in 2015, the company performed their first all-LED retrofit. Two of their facilities in Grinnell, Iowa were retrofitted with new LED fixtures that not only made the facility safe but drastically cut down on energy costs as well.

If you're starting a business, consider these nine ways you can make your process more sustainable:

**i. Your product source materials.**

- Choose sustainably sourced materials.
- Choose materials that are fair-trade.
- Choose materials that are made with recyclable, renewable, and/or biodegradable materials.
- Practice green procurement.

**ii. Eco-friendly packaging.**

- Use biodegradable packaging.
- Don't use a mishmash of materials.

**iii. Sustainable storage.**

- Choose an eco-friendly facility that uses renewable energy for climate control, such as solar panels.
- Pack items in green containers instead of pollutive plastics.
- If you need to discard items no longer needed, consider donating them instead of throwing them away.

**iv. Green shipping and delivery.**

- Use sustainable delivery methods.
- Use environmentally friendly shipping materials.

**v. Reduce paperwork and paper billing.**

- Aim to be as paperless as possible.
- If you must use paper, exclusively supply your office with sustainably sourced recycled paper.

**vi. Involve your employees.**

- Give your employees the option to work from home.
- Encourage your employees to adopt environmentally friendly habits.

**vii. Make your brick & mortar space sustainable.**

- Green up your environment.
- Take it to the cloud.

**viii. Make charitable contributions.**

- Start a promotion, such as planting a tree for every 10 products sold.
- Use green web hosting, which uses environmental technologies to carry out eco-friendly initiatives.
- Donate a percentage of your proceeds to environmental programs.
- Set up a fundraiser in your community to promote eco-conscious initiatives.

**ix. Find environmental certifications & initiatives.**

- Obtain a legit green business certification

Companies are not just key contributors to greenhouse gas emissions, but also face extensive risks of climate change consequences. The World Economic Forum positions failure to mitigate climate change as the Number 1 global risk to business, a risk that continues to grow as climate change consequences escalate. Firms face reduced productivity of farms and plantations, supply chain disruptions from extreme weather events, scarcity of natural resources, weather damage to factories, and health implications of workers just to name a few. Alongside these direct effects of climate change, societal forces are also acting upon firms. Firms now have a great prospect to not only mitigate risks but also take advantage of new business opportunities for reducing greenhouse gases and taking significant action on climate change.

With environmental awareness at an all-time high, consumers are becoming increasingly savvy about sustainable business practices. Before you lay claim to your business's environmental impact, be sure you can support such claims with the necessary activities. Moreover, keep in mind that business sustainability includes the efforts of your whole team and a company culture that is built around environmental awareness will make it easier to reach your sustainability goals. Finally, always remember that whether you rent or own your office or storefront, there are simple measures you can take to reduce your environmental impact within your space.

## Conclusion

Pig breeding requires knowledge, skills, and the right attitude so that it could be a profitable business. A farmer needs to know a lot of things about animals and the farm, also about the environment and the suitable production process. All of this and more can be found in the OER BREED VET toolkit for sustainable entrepreneurial initiatives in quality pig breeding.

Modules include not only comprehensive information but they are enriched with videos, animations, photos, texts from scientific papers, examples of good practices, interviews and more. All the information is presented in a detailed and interesting way. Therefore, this material is very valuable for both existing and new farmers, because after gaining so much knowledge they can adapt it for their own farms.

For beginners it is a very enriching knowledge baggage which can be used in order to avoid many mistakes which can be made when a person starts a new business. Problems related with animal health, meat quality, danger to the environment and problems related to money loss can become a serious headache which might even cause the need to suspend the business.

Existing farmers also can find something new and helpful which they can apply to their farms or find solutions to the problems they had and were not able to solve before. Moreover, they can find new innovative ways for management of their farms related to marketing, e-sales etc. It is important to mention that this course is freely available online, easily accessible by users worldwide and it provides the opportunity to its users to train in distance in a flexible and interesting manner.

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