

# Technical and Technological Principles of Functioning of Small Family Farm Pigs

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**Abstract** – Until about ten years ago on intensive pig rearing in our country were large farms with an average of 1500 sows and 50 boars in the main herd. Today it changed. We take over experience in Western European countries where there are mini farm for breeding pigs within the family farm. In Western European countries are already specialized farms where there is a reproductive - herd identification, education suckling piglets, breeding pigs up to 25 kg and fattening pigs.

In our country, we are forced to have next to the mini farm and within his own household a number of sows that we are used to getting pigs for further fattening. Of course it is not economically justified, because economically sustainable animal production involves highly specialized and professional production. In this paper, we describe the operation of a family farm pigs closed that provides its own broiler material od 12 -13 sows, which are the objects feedlots being fattened with feed with their own land. We have described this case in order to draw attention to all the elements necessary in raising pigs, including the intensification and complicated conditions of production itself, so these should take more care.

**Keyword** – Small, Family, Pig, Farm.

## I. INTRODUCTION

According to the Ordinance on veterinary-sanitary conditions of facilities for breeding and ungulate, ungulates, birds and rabbits, in Article 2 closer to determining the conditions to be met by a facility that would farm. This Ordinance, inter alia, provides that a small pig farm should have 100 or more pigs, and number of animals corresponding to the number of 20 CA (conditional throat is an animal or group of animals weighing 500 kg, excluding the weight of the largest product categories). This means that a small farm with 12 sows, 2 boars, 100 piglets in breeding house and 100 pigs per turn in the feedlot, meets the criteria of this Ordinance, Ordinance derives from Article 76 Paragraph 3 Veterinary Law (Official Gazette RS, no. 91/05). The Catalogue Project AD Our House is the proposal of technical solutions pig farm with 12 sows with cage rearing of piglets up to 25 kg and fattening pigs from 25 to 100 kg. Manure in the facility provided by the channel with floor grid. Object is projected with walls made of hollow clay blocks with the fact that the building be used, and other similar materials. The roof structure is a metal grid. Termoisolation of roof is Tervol and flat cement board to finish the ceiling. This was the starting point in our work we try to explain, mainly young colleagues, on the appearance of one such mini-farm.

## II. REVIEW OF LITERATURE

The title of the work suggests that we need to consider the technical aspects of construction and technology of these mini-farms. Before the start of construction means that the investor has some prior knowledge and experience on breeding pigs of different categories and to have appropriate education and literature pertaining to this area. We suggest that before entering into this business venture investor-grower well informed and consulted with experts and people who already work on this manufacturing. Oner should ensure that the terms of reference of an idea, to do the project farms specialized in the engineering firm, to the project to consult with competent professionals, finding an adequate performer, provide the supervisory authority, and upon completion provide a team of competent professionals for technical approval of the farm (Teodorović M, 2009).

### *The choice of the farm*

We opted for an indoor type of farm which means that the farms have their own identity herd or breeding sows and bors of which are obtained by pigs being raised in the breeding house, and after that education ends in their own feedlot. Please note that there are different possibilities in the production of pigs, from the open system with the purchase of pigs and their further fattening, keeping only the sows and boars reared piglets to 25 kg, buying piglets for fattening preparation of 12 to 25 kg, and so on. By choosing to hold a closed system of sows and pigs, we have the possibility of obtaining better quality of pigs with a good selection work and consultation with appropriate experts

### *Choosing a location*

Farm should be constructed to allow adequate microclimate and zoohygienic conditions for keeping and breeding pigs, and also that their presence does not threatens living environment of people. It is therefore necessary to provide pre-construction approval of veterinary inspection and environmental protection. In this sense it is necessary to prepare a study on environmental protection in the construction of a farm as a starting point for further development.

Place a farm building, according to the Regulations on vet. sanitation, should be located in the zone in which, depending on the type and number of animals and environmental conditions do not endanger or be affected by housing and other facilities in the near and distant surroundings in accordance with the law governing the construction and reconstruction of facilities.

According to the former Rules distance was precisely determined, so the farm was not allowed to build within a distance of 1000 m from the settlement or industrial facility. It is tolerated because of the need of connection to the electricity network and water supply, connections to local and regional roads, the distance is about 500 m from the nearest dwelling. In doing so ensures that the farm can not be placed in the main direction of the winds that blow toward a populated area. Speaking of wind rose, care must be taken that the facilities have been installed throughout its length in the direction of wind blows, only the narrowest part of the building, some without windows, rear. It is recommended for growing trees that will be hit the wind shield and impair the flow of winds. Farm to be built on a compact and with good swelling atmospheric wother. To means that land must not be underwater and the water table up to 2 m from the ground.

#### *Determining the size of farms, number and dimensions of objects*

Plan for construction of a farm that the investor wants to build a modern farm with quality equipment and quality breeding herds. The analysis of prices of building materials, the cost of equipment, breeding stock, the construction of the building, leads us to the approximate cost of three thousand euro per sow. Tests at home and abroad are telling us that the minimum number of sows on a farm closed, allowing profits and profitability in manufacturing - 300 sows, with a corresponding number of boars, piglets and fattening pigs. An example of a successful small farm built a mini pig farm in Russian Krstur. Today it is a farm who has 250 sows Landrace and Large White.

Our small farm with 12-14 sows an additional source of income for a household, with the conclusion that this farm is in the household, on his property, to use the nutrients from their fields, that the labor force from the circle of family members, to not include work time, that everything is put on paper and charged as an expense and so on. This is a semi-intensive way of rearing livestock.

We are shows a very practical way of planning the number of sows and boars, if the task of household produce 200 pigs per year, with modern technology. This technology involves shortening the suckling period, individual sow, suckling period of 28 days, breeding pigs in cages, feeding into two phases, after fettening on 22/60 kg and final fattening from 60 to 100 kg. Manufacture should provide 16 pigs per year, with 19% of total losses, including losses in farrowing-suckling piglets-15%, in piglet house of 5-25 kg were 2% and fattening are also 2%.

Production starts from 9.5 piglets born alive per litter and sow, and daily gain in fattening is 560 gr.

It is known that for keeping breeding sows should be provided with an area of 1.2 m<sup>2</sup>;

For keeping fattening pigs from 60 to 100 kg should provide 1m<sup>2</sup>.; after fettening for pigs in the 25 to 60 kg to 0.60 m<sup>2</sup>;

For weaned piglets from 5 to 25 kg should be provided 0.25 to 0.30 m<sup>2</sup>.

This provides the minimum requirements for normal care and animal welfare. We stated as much storage space is expensive, so it is necessary to focus more intensively used on the application of appropriate technology, and improving the production of various parameters such as: Increase fertility by appropriate selection recommended. Time besides pigs gets better and greater number of live pigs.

1. Losses in all categories increases the number of pigs, which is the main reason for our loss production. I obtain more piglets to keep a small number of sows in the same number of piglets.
2. High number in fattening shortens the use of a box.
3. Harmonization terms of farrowing, that would not have happened that at one time have more dust in the second period, less dust, and should provide a greater number of spare boxes.
4. Appropriate distribution boxes, avoiding unnecessary corridor, reducing the total area of storage space per head.
5. Appropriate schedule of boxing, avoiding unnecessary corridors, reducing the overall area of storage space per head.

Bearing in mind all the above will plan number piglets and sows to produce 400 fattening pigs

#### *Planning the number of pigs by Category*

Number of sows = 400 porkers 17 fattening pigs per sow per year = 23.52 sows

Sustained holding 24 sows.

Number of piglets = 400 porkers + 17 % loss = 468 piglets Sustained 470 live-born piglets.

Number of farrowing = 470 piglets: 9.5 live born piglets per litter = 49.47 farrowing

Sustained 50 farrowing.

Number of piglets weaned piglets = 470 - 12% loss in farrowing = 413 weaned piglets.

Planning the number of boxes and seats

Number Farrowing pen = 50 planned farrowing x 40 days of the box (28 days of breast-feeding and rest to prepare for farrowing sows in farrowing bringing them at least 7 days before farrowing, and piglets after weaning and translation empty and pregnant sows, the facility is cleaned, washed, disinfects and rest for at least 7, preferably at least 10 days. means : 50 x 40: 365 (days per year) = 5.47 of the dust.

For security should be planned construction of eight crates.

Number of cages = 413 planned, curved pigs from Farrowing pens x 60 days of use: 365 = of 67.89 (68).

Sustained construction 6 cages with 12 seats, which is a total of 72 seats.

Number of feedlots = 400 x 140 porkers planned days of boxing : 365 = 153.42 feedlot fattening pigs in each day. Approves the construction of 160 seats. Builds a half boxes of prefattening, 80 pigs fattened from 25 - 60 kg, which means you need 4 boxes of 20 heads boxing. For further education 80 fattening pigs from 60 -100 kg should receive 8 boxes of 10 fattening pigs in boxing. A larger number of fattening pigs in boxing, can reduce the projected growth of 600 gr.

When planning the number of seats and boxes for small farms to provide more spare boxes for repeated heats and uneven in farrowing sows farrowing, spare pens in the feedlot and breeding house for storing scrap pigs that may occur during their upbringing. Necessary during exercise and education equalization pigs and porkers according to size and weight, which allows uniform access to food and water for all animals.

*The appearance of the farm*

Circle farms must be large enough to match the capacity, number and size of the constructed facility to ensure their functional connection and mutual distance. Farm should be surrounded by a fence that prevents the uncontrolled entry of people and animals. This means that a height of 180 to 200 cm. Krug farms should be greened, and in some parts of the large farms should be separated not only by a fence, but the green belt.

The farm should have good access roads and roads in the farm which is bringing breeding animals, equipment, food, take away the fattened, waste - water slurry and died animals. The best is that these roads are the asphalt or concrete, especially within the farm, working occasional cleaning and disinfection same. Have to be provided with a sufficient number of hydrants and drains.

The farm should be provided with sufficient water to drink, the best of the public water supply, or from their own wells. We believe that the best combination of supply animals with water from the public water supply, for reasons of hygiene and cleaning animals and objects carried out water from their own wells, in economic reasons. With supply water from their own wells must be borne in mind that the wells are sufficient quantities of water will provide the daily needs of the number of animals. It is best to build a pumping station, water pump, which will draw water from greater depths. This enables greater hygienic quality of water and sufficient water supply for drinking and washing. Water must be controlled and must meet the required standards for drinking water. Washing facilities and roads can be used and the water that does not meet the standard. To means that water from wells should be pre- tested chemical and bacteriological, and if the conditions used in the farm. Means that the water from their own wells should be disinfected including the installation of chlorinators in a cabin. In this way, continuous use chlorinated voda. Usually Javel water chlorinating own water wells.

*Collection and evacuation of waste water*

On the farm should ensure the collection of storm water that can flow into the sewer system or into natural recipients without puriffycation. To means that you can freely drain to nearby streams, rivers or lakes.

Wastewater generated during the manufacturing process or washing facilities and equipment must be collected in a watertight dropped and must be purified before being discharged into natural recipients, or transported to rural land. Na large farms, waste - water slurry collected in the receiving pit, where the pompom inserted into the separator, which separates it of firm particles and the liquid portion is discharged to the decanter. This precipitated solid particles after separation again, and the

liquid portion is a system of channels leads to the lagoon, recipients of wastewater in which the slurry stowed at least 90 days, or up to the period fermentation slurry when the slurry processing to be performed on agricultural land or natural recipient. Of course, it means that the processed slurry aeration, injecting air into the lager manure, to prevent the development of anaerobic bacteria and reduce decay processes in manure. About it is necessary that the lagoon be paved or covered with a thick plastic film which will not allow penetration slurry into underground waterways and be easier to deal with slurry application oxygenator - aerator. Thickness layer of slurry must for these reasons be no more than three meters (Blower I, 1976).

Based on available data, it is considered that it can dissipate 60 to 90 tons of liquid manure per hectare per year, depending on the current seeding structure and method of operation for the time land. To exporting and distributing slurry - liquid manure, in certain cultures and certain months it can be said that the distribution of slurry when it comes to wheat and other small grains, distribution can be done immediately after harvest, ie. from July until winter. Corn allows distribution uu during the winter and spring, as well as the distribution of row crop after sowing, plant height up to 60 cm in order to feeding. Orchards can be fertilized throughout the year when weather conditions permit, except during harvest. Meadows and pastures can be fertilized during the fall, winter and early spring, when there is no vegetation, as well as during the summer immediately after cutting and waste grass mass ( Djurdjevic F, V. Misic, 1976). Today, the solution manure, or liquid garbage management on farms asking for combined mechanical, biological, and chemical processes, and that the main objective of the liquid - manure slurry, after leaving the facility specific treatments relieve certain materials and components in a way, sort and purified to the extent that allows a definitive distribution of the predicted agricultural land or into water recipients to meet the legal norms regarding the degree pollution. Primary to reduce the volume of slurry and the decomposition of organic matter in the slurry and this is possible using a combination of mechanical and biological treatment. As facilities which serve aeration Apart from these lagoons are used and special towers, circular pool, which we recommend for our mini farm. It's good that prior to insertion via slurry pumps in Tower - circular tank, slurry passes through the homogenizer slurry, and the pump fails sufficiently large

For the calculation of the capacity of the above-ground circular tank that we have chosen, we can use a table with quantities of liquid hog manure at different dry matter content by Prof. M. Tomic, 2001, particles of trash that would often clogged.

Category	UG Conditional throat	l / cap	l/UG
Pregnant Sows	0.34	7	20.5
Fattened	0.12	5	41
Piglets	0.04	2	50

So for a small pig farm that we build, we suggest that the recipient is circular capacity according to the number animals we plan to grow, according to the table below for the required amount of VDE to be used for washing, the amount of urine and feces of animals exude. To literature, pigs produced in the course of the day in an amount of faeces 5 % of its weight, and the urine in an amount twice the feces. By categories of pigs it would be in kg per day of :

Category swine	feces	urine	total
pregnant sows	1.6	2.6	4.2
sows with piglets	2.0	4.0	6.0
pigs up to 35 kg before fattening	0.7	2.0	2.7
fattening pigs	1.5	2.5	4.0

depends on the number of animals, production technology and the required surface according to the number of animals, taking account of animal welfare, and to every animal, provide the required space. Considering all these elements, we calculated that to meet the needs of animals necessary to our object is 25 m long.

The data show that the per livestock unit per day may count with 35 gallons of liquid manure, because in feces and urine creates 15 to 20 gallons of overflow water washing liquid which becomes an integral part of the liquid manure. Quantity slurry depends on the diet, sex and weight pigs. Second, most of slurry per pig is 5 kg per day or 0,037 m<sup>3</sup> per livestock throat. For 220 UG on our farm calculation capacity would be as follows:

$220 \times 0.037 \text{ m}^3 = 8.140 \text{ m}^3 \times 365 \text{ days} = 2971 \text{ m}^3$  per annum. If we know the volume of the cylinder and the amount of slurry, the budget we get that we need a tank 20 m wide and 5 m high, with a slurry evacuated from the tank twice a year. It is recommended that the tank is covered, but with the aeration opening in order to reduce the emission of unpleasant smell of CH<sub>4</sub>, NH<sub>3</sub>, CO<sub>2</sub>, NO<sub>2</sub>, and other toxic gases, the degradation products of organic matter. It is recommended to periodically mixing slurry in the tank through the mixers, which is in the tank via an electric motor or PTO tractor that drives the mixer outside.

Distance from tank facility should be at least 50 m. The material for the construction of the farm must ensure that its structure to ensure fire protection, thermal and acoustic insulation and maintenance of hygienic uslova. Za our farm we suggest a full masonry brick, wall thickness 24 cm, with 5 cm of polystyrene inside and plastering over the wire mesh. The wall is 3 m, and the ridge of the roof 3.5 m. Object size and 9 m width. Roof of coated metal on metal constructions. Between two metal table is an insulating material (glass wool, polystyrene). At a height of three meters, when starts roof construction, there is a perforated plate made of plastic through the holes is lowered fresh air that is mixed with existing heated and fall through the bars of the animals. Fresh air enters through the damper ( inlets, Eng.) Under the eaves, each 3 meters.

### *Ventilation of the building*

Ventilation can be natural and artificially. Natural may also be made through a window on the side walls. Window area should equal 1/20 of the floor, a window opening to the inward, with a fixed lower window (scissors). Should be available and artificial lighting is necessary for control of the facility and animals, possible intervention on the equipment and animals and diet ad libitum fattening. Ventilation in our facility is a combination of natural and artificial, where the system is used under pressure. The holes on the flaps on one side of the wall, fresh air enters and axial fans on the opposite side of the wall extract stable air. Fans can be placed in the tubes, which are located above the animal and go to the roof. For the calculation of ventilation should be known to calculate the various elements such as:

Volume of object = length x width x average height of the building.

The average building height = height + height of the side walls of the roof ridge to the side walls, divided by two.

Cross-section of the object = the average height x width of building

The total volume of air = cross section of the object x desired air velocity

$$\text{Number of fans} = \frac{\text{total volume of air}}{\text{fan capacity at operating pressure (CPMs)}}$$

$$\text{Of air in the house} = \frac{\text{volume of air in the house}}{\text{fan capacity}}$$

$$\text{Velocity of air} = \frac{\text{fan capacity}}{\text{cross section of the building}}$$

Calculating the number of ventilation fans for the side: Capacity of our facility is  $25 \times 9 \times 3 \text{ m} = 675 \text{ m}^3$  Required ventilation =  $675 \text{ m}^3 : 300 \text{ s} = 2.25 \text{ m}^3 / \text{s}$  The required fan =  $2.25 \text{ m}^3 / \text{s} : 5.75 \text{ m}^3 / \text{s}$  (the capacity of a fan) = 1 fan

The rule is to use ventilator at full power in less time. Thus there is a complete change of air within the building, and if fans rheostat regulate and adjust them to lower the intensity of pulling over a long period, it will be removed from the facility only a small part of the air near the fans. So get two or more zones of different temperature and air quality within the building (Nitovski A, 2008).

### *Conditions in terms of inputs and facilities on the farm*

Farm that has more than 100 heads of pigs should have a separate vehicular entrance and pedestrian entrances should have a disinfection barrier dimensions 6.0 x 3.0 x 0.25 m, a pedestrian entrance should have a lower barrier measuring 1.0 x 0.5 x 0.05 m. Des. barriers should be filled with an aqueous solution of disinfectant. Typically, this is 2% NaOH solution, and may be 3% solution of formalin. Practical experience is a barrier to be covered, the atmospheric precipitation is not diluted disinfectant. tool. Barriers around the school to make a gutter width of about 50 cm which collects the water ejected from the barrier after the passage of trucks. From the gutters to collect the liquid in the tank in one corner of the barrier,

and hence is diluted with water and evacuated. The barrier must have a drain hole through which it is rinsed after washing. Larger farms are divided into several units, blocks, usually marked with A, B, C and so on.

In block A technical section are located all farm services such as administration, external supply, food storage, maintenance service and so on.

In block B-part production, production facilities are located, for each category of pigs: facilities for breeding animals, objects for growing offspring, breeding facilities, test stations, and so on.

Objects made for certain categories of animals should be distant from each other by 100-500 m, depending on the capacity of the farm. For example reprocenter should be away from feedlots, since the specific pathology related to the breeding herd, and the other for fattening pigs.

Between the blocks on the farm to the veterinary sanitary filter, and school and pedestrian barriers with a bowl for washing and disinfecting hands.

In addition to production facilities, our farm has to have other areas, namely: a) the administration of a, b) premises for the veterinary service, c) changing room workers and persons entering the farm, d) toilets, e) room for meals and rest of workers, f) a room for storing disinfectants, h) a room for storing equipment and supplies.

Since this is a farm with breeding herds which requires overhauling a third herd each year, mostly from their own herds, and in part, with the purchase, it is necessary to quarantine the farm has several boxes of newly purchased animals. Here newly acquired animals are placed and kept about a month (two average incubation time of disease), during which monitors their health.

Since this is a farm with many animals especially the younger category with a higher rate of death, the farm should have a facility for collecting corpses, in which the chamber for hygienic collection and storage of bodies freeze, until the arrival of the vehicle rendering plant. Pit graves is not a good solution, because after a few years would lead to the spread of foul odors due rotten process. Wheat cemetery over time because of irregular burial of corpses on the previous day, may lead to the spread of infection by wild birds and pariah dogs. Approach facility for the collection and review bodies should be separated from other roads through the farm, then to the outside, with the access road to be that is constructed so as not to pollute the environment.

It should be noted that the roads entering the farm, say the arrival of workers at work, or guests, customers, and so on. should not intersect with roads in the production of farm. To means to provide a separate path for entry into the wardrobe where they moult workers. Here begins the second part of the roads in the production that should not intersect with other roads. With sales of piglets and fattening pigs should be by one day, so as not to contaminate more carts and workers and re-entered the premises. Employees working on the farm should not keep pigs in their household, not to convey the possible infection through clothing, on a farm. On the farm should not be entered foods of animal origin that is heat treated, especially the origin of the pigs.

Lighting, temperature and humidity, air circulation, the concentration of gas and dust in the air, the intensity of noise and hygiene on the premises or premises where live animals must be within the limits that are not harmful to animals.

## II. DISCUSSION AND ANALYSIS OF WORK

In the discussion we will analyze all aspects of construction, appearance and impact of the arrangement of rooms and equipment functionality farm. Explain how the technical and technological conditions affecting the functionality of the farm and maintain good health, and thus the production of good results.

The aim of our study is to explain a practical example of how to build and organize the production of piglets and fattening pigs on a small farm with 13 sows that produce 200 pigs a year.

In the example given by Prof. Teodorović M, 2007 (Agriculture), farm for the annual production of 200 pigs, can be constructed as a single object (as we are planning), which is divided into departments: suckling, rearing, and waiting area –fattenning. Total length is 12 m, a width of 6 meter. In the case you want to be separated from the rest of the breeding station, then the length of each building was 24 m. We planned that the length of our property is 25 mA 9 m wide, with added facilities for food boxes for boars and all. As source of heat for the piglets in the farrowing pen is warm under heated water. Nutrition pig is a dry mixture of waves. Liquid manure is removed below the channel grid of boxes to be completed septic tank. Power pigs with nipple nipple, and the flow rate is about 0.7 l / min.

Our farm would have a similar appearance, only to be different for heating, Coyne would be in the farrowing pen with electric guns or calorifier with boxes in boxes for rearing pigs. Heating would be using the heaters, and for fattening pigs, guns, or electric heaters. We suggest that the cages are breeding house in height hallway with a large number pigs. Floor be coated with a solid part of the floor and boxes in which pigs are packed and heat. Farm must have the appropriate equipment and the like: self-unloading carts or food distribution, the pump for cleaning and disinfection of high pressure, animal scales, manure tank, medium power tractor, loading ramp, veterinary equipment, marking the pigs and so on. The appearance of farm buildings and the comply with the Ordinance on veterinary sanitary conditions to be fills the facilities for breeding and keeping of domestic animals, and are consistent with the objects that we propose. These are: Construction of a fence around the farm, internal roads, water well with water, electrical installations with light yard greening area, changing room workers small office that the veterinary facility for point and dead animals.

At the school entrance is set desifection barriers length 8 m, a depth of 0.25 m. At the pedestrian entrance desifection barriers depth of 2 to 3 cm.

According to the said Ordinance, the dimensions of academic barriers are 6.0 x 3.0 x 0.25 m, a length of 8 m

barrier allows the barrier to fit the trailer, truck, or add container for concentrate of food (binciklons) the truck to transport food.

### *The organization of the farm-technology model of modern swine production*

Regardless of the size and ownership of farms, the main technological production model has the same basis and takes place in similar or identical phases. Technological model output is primarily determined by the biology of domestic animals like pigs, and differences relating to technical solutions that accompany Biology svinja. Technological systems and technical solutions that accompany them, must respect the biology of pigs that takes place in a more continuous phase:

- Occurrence of oestrus, mating and fertilization,
- Meaning the animals,
- Farrowing and lactating sows,
- Rearing piglets after lactation
- Fattening pigs for meat production.

Technology working on the farm involves implementing a series of activities on the farm with the goal of adequate organization of the work process of production to the level that will give the best results for a given production area and the type and category of animals. The manufacturing process should be standardized and consistent with modern principles of production.

In our example, the entrance to the farm, there is room for food in bags-for sows and piglets, and pigs would be good to install a small automatic binciklon bringing food to the pan, since the pigs feeding dry food, at will. The first class is the Service center with waiting area. Here are settled two boars and sows are half pregnant and waiting farrowing. Plan to keep the farm sows Landras. It would be good that half the Yorkshire breed sows, but it requires keeping and Landrace boars the plan is well organized crossbreeding. If service VO artificial insemination in the nearest vet. cells, it may be held half Landrace sows, a half breed Yorkshire or Large Waite-Large White pigs. We decided to buy a boar Landrace breed in a clean race, which was viewed before purchase, a review was conducted of the sperm, it would not be a problem with fertility by boar. Pored Landrace boars, would buy and Pietrain boars that serves as the final selection would race. done to selection plan, which should be adhered to and would use natural mating. We are recommended individual sow, which has advantages and disadvantages. The advantage is that there is no competition in the diet, there is no conflict with other sows and possible injury of fruits. The downside is that the sows all the time in a narrow space-box, which can not be turned away. We propose to incorporate five individual boxes during mating, and during the arrival of farrowing pens to insemination. This period is called a service period and lasts up to two weeks, usually up to 7 days sows enter estrus and be insemination. If the service period extended, the sow gives AD<sub>3</sub>E vitamins and hormones Foligon, or PG-600, etc., which cause estrus. Insemination and pregnant sows are placed in a group box with a split of the feed, the larger sows not in feeding pushing smaller sows. On large farms, pigs are placed in group pens for

farrowing by time and according to their constitution and size.

Ten days before farrowing sows are translated in the following section, which is suckling.

We calculated that we need 4 boxes for dusting, it is best to farrowing be separated.

The farrowing takes place, the action that requires workers to introduce the basics of this vet. technical surgery. In large farms are concerned about farrowing-midwives separate workers who vet. technicians at profession. The best is to ensure the farm, to make an agreement with the vet. station on the daily tour of farms and monitoring the health status of all categories pigs. Boxing farrowing and piglet holding up to 28 days should have a box with a heater that protects them from cold and draft. Nutrition piglets top dressing on the fifth day starts with a small amount of food that the pigs getting used to the food. Prasad received prestarter containing 22% protein. There are different approaches in providing protein with animal protein or amino acids only. We believe that for the first time provide a good combination of sow milk powder, fish marriage, whey, fat, sugar, combined with corn, soybeans, minerals and vitamins. The complete digestion of food in piglets after 12 days starts when developing and lipolytic enzymes. Tenth day of proteolytic enzymes have been developed, with a 7 to 8 days pig is able to digest coal hydrate. Sows before farrowing bathe with warm water and detergent and can be spray ectoantiparazitics drugs. Sows and the measured temperature for three days, and after farrowing receive bolus intrauterine antibiotic or other medicine for prevention MMA syndrom. Sows before farrowing to withhold food for several days on the day of farrowing is completely denied, to prevent over-filling of the udder with milk and dusting easier.

After farrowing pigs are accepted, delete the amniotic fluid and excreta of the birth times a towel or tissue, reduces umbilical cord and placed in the cart under the bulb to dry. When all the pigs washed, their tails cropped and disinfect the navel and tail combination of iodine and alcohol. If you are washed once more sows, it is possible equalization of litters by size. If equalization is done it is desirable to transfer half of the piglets and not just one.

Piglets had previously sprinkled with flea powder or similar, to neutralize the smell of the previous litter. Of course, sprinkled all piglets in a litter in order to level odor. When comes first farrowing, must lead to the Accounts of the possible occurrence of these hypo-or agalactia or reduction or complete cessation of milk secretion. Therefore, the first farrowing control sows general condition, temperature and milk yield necessarily. Shortage first three days and reduced the secretion of milk occurs in 30% of first litter sows. After 28 days the piglets are divided and rearing to go too far with an average weight for that age group of 7-8 kg. In breeding house to feed the first day of pre sits, to reduce the stress that they experienced separation from the mother. Concomitant changes in food would lead to more stress this young and susceptible organism. It is important to teach the workers to the breeding house go to the next

food is done gradually. First, the first two days of pre mixed two-thirds with one third starter.

The next two days is given to mixtures consisting of the same amount of pre and starter, and the next two days is given to mixtures comprising two-thirds of the starter first and one-third of pre. The seventh to move to a starter, which contains 20% of the protein. Piglets divided of mother with 25-27 kg, when translated into the following section, which is before fattening and fattening. In before fattening be stored for 20 young mails, and boxes are placed in fattening 10 hogs. It is good that in feedlot breeding house and we have one box for pigs and young mails that were left behind in growth, to allow them easier access to food, to prevent harassment from other pigs and faster recovery with appropriate drug treatment (Nitovski A, 1986).

Delivery of pigs should be moving through the ramp rather than on the front door.

On the farm are applied hygienic and sanitary measures to prevent introduction of infection into farm. But we said that the necessary cleaning, washing and disinfection in translating animal to the next process production. There and disinfection during the manufacturing process when the liquid-disinfected hallways, occasionally aerosol air disinfection, disinfection equipment-shovels, wheel barrows, brooms and so on.

According to the technology of preventing infectious diseases is carried out adequate vaccination. In EU has banned any kind of vaccination, but vaccination of pigs against E.coli. To means that all these procedures have the task to maintain biosecurity on pig farms, as a prerequisite for good performance results.

### III. CONCLUSION

1. Offered technical and technological solution to build and operate a small pig farm in accordance with the applicable Ordinance on veterinary-sanitary conditions of facilities for breeding and ungulate, ungulates, birds and rabbits.
2. A small pig farms contains all the necessary facilities and large, only a significantly reduced and is capable of producing modern pigs and hogs.
3. Proposed production results in the offered solution is to farm under the norms of modern technology and production due to provide certain elements of the storage space of the calculations, taking into account the amateur approach to work, dependency on professional help, inadequate qualifications and so on.
4. The offered solution may be an example of building a small farm to produce 200 pigs a year, as a supplementary source of income. It is known that the production of piglets and fattening pigs, which are obtained by holding 300 or more sows, provide secure profitability and profit.

### REFERENCES

- [1] Totic M, 2001: Facilities and equipment in pig, Manual of Practice.
- [2] Teodorović M, 2009: Agriculture Info, Internet Magazine, pages 1-3.
- [3] Hristov S, 2002: Animal hygiene, tutorial, Belgrade, p. 676-680, 736-760.
- [4] Avakumović Dj, 1998: Application of modern scientific and practical achievements in health care and reproduction of pigs, Monograph, Belgrade, pp.27-61 and 123-135.
- [5] Lončarević A, 1997, Monograph, Belgrade, 489-492.
- [6] Nitovski A, 1986: Specialist work, health care of pigs with special reference to body weight of piglets at birth, Belgrade.
- [7] Forster G, 1987: Contemporary management of manure on big farms, Proceedings of the counseling on hygienic and technological problems liquid garbage management on large farms, Novi Sad, 7-23.
- [8] Blower A, 1987: Hygienic and technological management of technical problems with liquid garbage in large pig farms, Introductory Speech, Conference Proceedings, 25-35.
- [9] Djurdjevic F, Mistic V, 1987: Solving manure management, treatment and utilization of wastewater in the design and construction of new pig farms, Invited paper, Proceedings, 37-42.