

## PIGS

1. You should now be looking at the title of this series:  
FOOD AND SOCIETY
2. The way we produce and consume our food has a major impact on the way we live as a society. Instead of merely eating and going off to watch T.V., perhaps we could start to give a thought to where our food has come from: who produced it?, what is its nutritional value and what additives are contained in it? Armed with this knowledge, we can be more informed, more caring members of society.
3. The Poor Old Pig? No. 1 in the series.
4. Pigs have been important to humans for thousands of years. The first people to include pigmeat in their diet were the Chinese. The pig was their only domestic animal. Later, in Europe, where this sketch was made, the wild pig was domesticated. The pig we know today comes from both the Asian and European strains.
5. And of course, the nursery rhymes we all know, such as "This Little Pig Went to Market", and "The Three Little Pigs" which have delighted children for countless generations, also came from Europe although Asians, no doubt, have their own versions.
6. Pigmeat is taboo in certain religions, such as Judaism. The Old Testament of the Bible states that pigs are unclean because they don't chew their cud and for that reason, their flesh should not be eaten. In some tribal religions too, pigs are off the menu, apparently because their flesh is fairly similar to human flesh.
7. In some cultures though, the eating of pigmeat is strongly encouraged. In New Guinea, for example, highland tribes believe pigs must be sacrificed to the ancestors and eaten on all important occasions.
8. In Western countries such as Australia and New Zealand, most people see the pig as just another animal, no different from chooks or any other animal used for our convenience. We enjoy their meat and apart from that, we don't give them much thought.
9. In this program though, we're going to find out more about this important animal; we'll look at the radical changes in the way pigs are bred and fattened, the effect of this on the happiness (or welfare) of the pigs, the various types of pigmeat and the nutritional problems which arise.
10. Pigs first came to Australia with the First fleet, when 49 of them stepped ashore with Captain Arthur Phillip. The number grew steadily so that today there's around 2½ million of them. This doesn't include many tens of thousands of pigs which run wild through the open woodlands of Australia.
11. For at least a century, pigs were a feature of almost every homestead. They're very intelligent and charming creatures and they can be as friendly and affectionate as a dog. And, of course, they provided a good supplement to the family income.
12. In traditional housing in styes, pigs often suffered from lack of good shelter and from dirty conditions. Many farmers allowed their pigs to feed on filthy floors, drink from dirty water troughs and sleep in wet or dusty bedding places. Pigs in these conditions ran a high risk of disease.
13. Because pigs had plenty of room to move about, many piglets died soon after birth. The mother would often crush her babies with the sheer weight of her enormous body.

14. In winter, much of the food they ate went into maintaining their body temperature and their health generally; so it took a long time to fatten a pig for meat. This method of farming eventually became uneconomic for commercial producers as new technology was introduced.

15. Since the mid 1960's, pigs have been bred and fattened in large factories such as these. Companies usually own these intensive piggeries, as they're called, because of the high cost of establishing them. Each piggery may house up to 100,000 pigs.

16. This change has helped to cause a large number of people to leave their farms for the cities in search of employment. Machines and mass production methods have meant that fewer people have been needed in all forms of agriculture.

17. The change has also caused many people who care about animal welfare to question the new methods. Animal Liberation groups have claimed that animals are now grossly mistreated; of all the animals we use for food, pigs (and chickens), they argue, are the worst off. The main criticism is that the pigs are treated as machines rather than sensitive animals, and they have lost contact with their traditional environment.

18. Well, are pigs being cruelly treated? Are we treating them like machines? To try and answer these questions, and to understand the industry better, let's take a look inside one of the largest Intensive Piggeries in Australia, Mayfair Farms in Central Victoria.

19. The Piggery is divided into 4 areas which are designed for maximum exploitation of the pigs reproductive and growth cycles. The pigs are mated and conceived in the breeding stock house, born and cared for in the first few weeks of life in the farrowing house, weaned from their mothers in the weaning house, and fattened to maturity in the finishing house. In each house, the temperature, water and feeding are controlled by machines.

20. The Breeding Stock House is where the sows, gilts and boars are kept. A sow is a mature female pig, a gilt is a young female, almost ready to be mated, and a boar is a male.

21. A lot of study and planning goes into breeding some commercial stock, to speed up the fattening process. Although most pigs are mated naturally, some are artificially inseminated with imported sperm to improve the breeds.

22. In the early stages of pregnancy, sows are temperamental and often violent towards each other. So, for the first 6 weeks, they're placed in crates to avoid injury and to make sure that they all get enough food.

23. The rest of the pregnancy is spent in large pens with more room to move around in, as the sows are more docile. By the way, pigs produce more offspring than any other farm animal. In intensive piggeries, a sow has 2 litters each year with around 10 piglets each time.

24. The Farrowing House is where piglets are born and cared for until they're 5 weeks of age. It's a tough place for the sow. She's kept in a crate so she can't crush the piglets. All she can do is lie down, stand up, eat, drink and expose her teats to the piglets. She can't walk or turn around.

25. Piglets born much smaller than the rest of the litter aren't able to compete with the others for milk. To save their lives, and add to the piggeries output, they're bottle-fed with the mother's milk, and later they're fostered with another sow.

26. In the Weaning Shed, the piglets are housed on these flat steel decks from weaning, at 5 weeks, until they're 10 weeks old.
27. Finally, the Finishing House are where they're fattened, ready for sale ; that is, ready for the processing factory and the dinner table.
28. Pigs are more efficient than any other livestock in converting feed to meat. For every 4 kgs of grain they eat, they produce 1 kg of high protein meat. Cattle require twice as much grain to produce a kg of meat.
29. These days, pigs grow much more quickly than they did in the old days. Pigs grown for pork, are ready for market at 4 months old, when they weigh around 50 kg. Pigs for the bacon and ham trade, need more fat on them, so they're ready at 6 months old, when they weigh around 90 kg. In contrast, a pig in the nineteenth century had to grow to around 250 kg in weight before it had enough meat on it, and this took 12 months or so. When it was around 6 months old, its weight was largely in bones and organs and it had much less meat on it than pigs do today.
30. In the old days, pigs were fed on a whole range of foodscraps including household and fruitshop wastes and leftover milk. Swill as it was called, was a very cheap way of feeding, but it took far too long to fatten the pig and it was therefore uneconomic by today's standards.
- 31 Today, farmers use special types of pellets in controlled feeding programmes. This has been a major cause of the faster growth of pigs, although as we've seen, intensive housing, and improved breeding have been important too.
32. As well as vitamins and minerals, the pellets contain additives such as anthelmintics for worm control, arsenicals to speed up growth, nitrofurans which destroy certain bacteria in the pig's stomach, and antibiotics to control disease.
33. The widespread use of antibiotics is a problem, as it's a threat to both pigs and humans. The more they're used, the more likely it is that bacteria will become immune to them - then there may be no treatment for a disease. Also, if they're used illegally in the few weeks before the pigs are slaughtered, there's a risk that the antibiotics will find their way into humans.
34. Antibiotics are necessary simply because pigs kept in close confinement have a high risk of disease, just as pigs kept in dirty styes did in the old days. But lack of space causes other problems as well.
35. When pigs are overcrowded, they tend to behave neurotically. For example, they will often bite each other's tails off, and to overcome this, the piggery operators routinely cut their tails off at birth. Also, stress causes some pigs to develop painful stomach ulcers.
36. Sows also suffer in a particular way from lack of space. By instinct, sows want to make a nest of straw before giving birth, but this is usually not allowed in intensive piggeries. Cleaning up the straw means higher labour costs and the straw may also make it difficult to keep an eye on the piglets. The resulting stress affects the sows hormone balance, and often results in still births.
37. The lack of space is a major reason why people in animal welfare groups are upset about the pig industry. The buildings, they say, are designed for the convenience and profit of humans not for the welfare of the pigs.

38. Other aspects of the industry are criticised too. One is the way the piglets are treated at birth. Not only are their tails cut off, but their ears are notched to help identify them, and their teeth are clipped.

39. Also, it's argued, modern flooring in the form of wooden slats and concrete, makes the pig's legs weak and cause arthritis and sometimes abnormal development of the hooves.

40. Piggery operators on the other hand point out that the system has advantages over the old method of raising pigs. They're protected from the extremes of the climate, so they need less food, they're regularly inspected by vets who're often employed on site, labour costs are reduced and fewer piglets die in the first month or so of life. All this means greater efficiency and lower prices for the consumer.

41. But while the Animal Liberation groups don't want a return to the bad old days, they do argue for a better system of pig farming. In such a system, pigs would have more space inside the sheds as well as access to outside areas. This would reduce their stress levels and make cruel practices such as tail cutting less necessary.

42. The problem though is who would pay the huge costs involved? Buildings would need to be altered and more labour would have to be hired. Should consumers pay through increased prices? Should the government pay by raising taxes and giving subsidies to the pig industry? Or should the animal welfare groups themselves pay? This is a difficult question to resolve.

43. Some improvements however, can be made at little cost and there are signs that piggery operators are prepared to make these changes. One is the practice of keeping older sows with the younger gilts. Because this exposes the gilts to viruses and builds up their resistance, it reduces the need for antibiotics.

44. Let's now look at what happens once the pigs leave the piggery. Each year around 4 million pigs are slaughtered. About 3/4 of the pigmeat is pork, which, as we saw earlier, comes from younger pigs and the remainder is from bacon and ham.

45. The old tradition of using every part of the animal after slaughter is still maintained. As the saying goes, the only part of the pig which is not processed, is its squeal.

46. Pigs produced for pork are divided into 6 consumer cuts, which are the cheek, hand, shoulder, belly, loin and leg.

47. The choicer portions of the older pig are cured and smoked to produce bacon and ham. Ham comes from the hind leg of pork, while bacon comes from the belly of pork which explains its high fat content.

48. The offal, which is the head, organs and blood, is minced up to make sausages and delicacies such as pate.

49. Since earliest recorded history, humans have preserved meat by curing it. Salt draws the water out of bacterial cells and controls the bacteria which cause meat to go off.

50. As well as salt, the recipes for old home cures for bacon and ham included the use of wine vinegar, treacle and other natural ingredients to provide flavour as well as to assist the preserving process. It was a time-consuming task as it meant rubbing salt into the meat for many days, soaking it in a pickle mixture for weeks and then drying it.

51. Today, the process is very different as machines have taken over. Mechanical needles skewer the meat and inject it with preservatives and flavouring and much less labour is needed.

52. Both old and new chemical compounds are now used in the preserving and flavouring process. Sodium (or salt) compounds preserve the meat, control the moisture content and improve the texture. Sugar helps to soften the meat, and adds flavour, while nitrites keep it nice and pink.

53. The next stage in the curing process is smoking. This helps the preservation of the meat, and also give it added flavour. Like salting, smoking is also a method which has been used for a very long time. The difference today is that it's carried out in a machine rather than in an old country smokinghouse.

54. This chart shows our consumption of pork, bacon and ham, and compared it with the other meats we eat. As you can see, we now eat an average of around 6 kgs of pork and  $6\frac{1}{2}$  kgs of bacon and ham and 2 kgs of sausages and pates each year. Overall, we eat an average of  $14\frac{1}{2}$  kgs of pigmeat. This is about the same amount of lamb that we eat, but less than our chicken, and especially our beef consumption.

55. In contrast, in Europe, pigmeat is the major form of meat eaten and it's been so for hundreds of years. This is simply because lambs are very scarce and compared with cattle, pigs are more easily housed intensively so that they need little space.

56. Like meat generally, pigmeat is a good source of protein, minerals such as calcium, iron, phosphorus and potassium, and the B group vitamins, thiamine, riboflavin, and niacin. But on other counts, pigmeat doesn't perform too well.

57. In recent years, there's been a growing concern about sodium in our diet and its link with high blood pressure. Although the addition of salt to our food is not essential for good health, we acquire a taste for it when we're young.

58. As we get older, high levels of sodium appear to cause our blood pressure to rise. This can cause heart failure, strokes and other diseases, such as kidney failure.

59. This table shows the extremely high sodium content of cured pigmeats. Whilst untreated pork (like beef and lamb) has only 100 or so mg of sodium, ham and sausages have about 10 times as much and bacon a whopping 30 times as much.

60. Another possible problem is the level of nitrates and nitrites, which are preservatives in ham and bacon. There's some evidence that beyond certain levels, these additives may be linked with cancer of the stomach, but it's not regarded as a serious problem by health authorities.

61. Fat is another problem in our diet. Diets high in animal fats may be linked with cancer of the colon and appear to be a definite cause of heart failure, strokes and other degenerate diseases. Health authorities now say that we should greatly reduce the fat content of our diet, especially the saturated fat from animals.

62. All pigmeats, except lean pork, and canned ham are high in fat. Fried bacon (with 64%) contains the highest proportion although grilled bacon is not far behind.

63. Clearly to reduce our fat intake, we should cut the fat off the meat, grill it instead of fry it, and when possible, buy lean meat.

64. Our review of pigs' lives and the meat we obtain from them has raised important questions. Can we justify eating meat from animals that never exercise and never see sunlight, animals that are fed antibiotics and growth promotants, animals that are forced to tread on uncomfortable floors and have their teeth and ears clipped and their tails cut off to increase efficiency?

65. Have we made the life of a pig miserable so that we can buy meat at a low price? Would we be prepared to pay a higher price if the pigs were housed and treated more humanely? Are pigmeats so high in fat and salt that they're dangerous to our health? Would it be better to avoid ham and bacon altogether?

66. Or are the intensive piggeries doing a good job in some ways? Are they at least giving the pigs a clean environment to live in? But is there a middle way that would be better all round, where pigs are kept reasonably clean, with clean food and also have plenty of room to move about?

67. We need to be informed consumers. Only then can we make decisions which are in the best interests, not only <sup>of</sup> ourselves as individuals, but also of society overall, including the millions of animals we manage for human comfort, profit and convenience.

68. Credits.