

from the other meat-producing animals require some skill if they are to be efficiently carried out.

Endocrine Glands

Thyroid

The thyroid gland, which is situated on either side of the windpipe (trachea), consists of two maroon lobes connected by an isthmus of tissue. It has a controlling effect on the body heat, energy rate, growth and size of bones, intelligence, and in general the speed of living. If this gland enlarges in humans, it is called a goitre. The substance the thyroid secretes is thyroxin, deficiency of which will bring on certain lymphatic swellings and dwarfishness in certain cases. Too much secretion may cause digestive troubles, insomnia, and loss of weight, making the thyroid perhaps the most variable organ in the body.

Parathyroid

The parathyroid glands, which are near the thyroids, are four in number and about the size of a wheat seed. Their main work is to regulate the amount of lime in the blood and cells and the rate of coagulation of the blood. Their removal from the live animal would result in nervous spasms and eventually death. The extract of the gland is used in the treatment of tetanus, but is rarely saved in this country.

Thymus

The thymus gland is described in edible meat by-products as the sweetbread. Its pharmaceutical product is used in the treatment of rickets.

Pituitary

Found in the base of the brain, the pituitary gland consists of two lobes known as the anterior and posterior lobes. Each has a different function; the former is responsible for growth and is associated with sex glands; the latter has the ability to stimulate involuntary muscles, thus being valuable in obstetrical cases.

... MEAT BY-PRODUCTS: GLANDS AND ORGANS

Pineal

The pineal gland is a cone-shaped tissue about the size of a pea hidden in a small cavity of the brain. Among other functions it regulates childhood growth. The pineal and pituitary glands are usually removed when the head is split open to extract the brain.

Suprarenal

Situated close to the kidneys, the two suprarenal glands are easily recognised by their yellowish fatty colour. The outer portion of the gland (cortex) is associated with general debility and emaciation and the inner portion (medulla) secretes a substance called adrenalin which may constrict the capillaries and temporarily raise the blood pressure. It is sometimes called the gland of combat because it quickens its secretions to control the nervous and muscular system at moments of pain, fear, and rage.

Sex Glands

The primary function of the ovaries and testes is to form reproductive cells for external secretion. They also secrete substances internally which control secondary sexual characteristics. This is shown by the castration of a ram lamb; the wether never develops the characteristics of heavy conformation and muscle of the entire ram.

The various extracts from these glands have been used in ovarian disturbances and it is possible with their use to induce lactation without pregnancy.

Other Glands and Organs

Pancreas

The pancreas is the most common of the glands saved, possibly because it is the most easily found in cattle, sheep, and pigs. The gland is situated within the abdomen. The substance it secretes internally regulates, among other things, the process of metabolism

and the supply of sugar for the main organs of the body. Its pharmaceutical product is insulin, which is important for combating diabetes. Pancreas glands saved from bobby calves provide the best source of insulin and supply a potent product which is invaluable in the worst cases of diabetes because a small injection of it is equal to several injections of the standard product made from cattle glands.

Livers

All beef livers which have been rejected for edible purposes but are not badly diseased may be processed to derive a liver extract. The extract is used in cases of pernicious anaemia.

Gall

The gall bladders are carefully removed from the livers of cattle, sheep, and lambs, and are cut open over a sieve through which the gall or bile runs into a steam- or water-jacketed pan. It is then heated to 180 degrees F., which is maintained until the moisture content is reduced to 25 per cent., when it is run into casks to cool. Its extract, which is in the form of bile salts, is used in the manufacture of various medicinal preparations, and its value is estimated for this purpose on its cholic acid content. A common use of gall is in the manufacture of inks and dyes.

CASINGS

The casings of pigs, sheep, lambs, and cattle have long been valuable by-products of the industry, especially in the form of containers used by sausage manufacturers. In later years their value as various types of strings and surgical ligatures became apparent, thus establishing a firm secondary industry. In New Zealand for many

Below—Casks of pickled pelts for export.

