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## GEESE AND DUCKS FEATHERS AND DOWN

### PENELE ȘI PUFUL DE GÂSCĂ ȘI RAȚĂ

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#### Abstract:

*From centuries geese lived altogether with man. Everybody knows about roman geese who, with their strident voices made excellent guards against strangers or predators. This was shown in 390 BC, when Rome was attacked by Gaelic troops. It was the alertness of the holy geese housed in the temple of the city's fort that allowed the defenders to wake in time to resist the attacking enemy. They serve as providing meat for table but in the same time were a source of writing quills and feathers for stuffing mattresses, pillows and down-insulated coats and vests.*

**Key words:** geese, feathers, down

#### Rezumat:

*De secole, gâștele au trăit alături de om. Toate lumea știe despre gâștele romane care cu strigătul lor strident au fost gârzi excelente împotriva străinilor sau prădătorilor. Acest lucru s-a adeverit în 390 î.Ch. când Roma a fost atacată de gali. Zgomotul gâștelor sfinte adăpostite în templul orașului a permis celor atacați să se trezească la timp și reziste apoi atacului inamic. Au fost folosite pentru a furniza carne, dar în același și ca sursă de pene pentru scris și pene pentru a umple saltelele, pernele și căptușeala hainelor sau vestelor.*

**Cuvinte cheie:** gâște, pene, puf

#### INTRODUCTION

Geese have been helping man through the centuries to a greater extent than most people realise. They served as a source of writing quills, a source of feathers for stuffing mattresses, pillows and down-insulated coats and vests, as well as providing meat for the table. Near the turn of the century there were more geese raised than turkeys or ducks.

The plumage of birds has not only a protective function; it also forms the supporting parts of the wings and tail. In cool weather, the bird ruffles its feathers, thus increasing the volume of its plumage. Because of this air-cushion, the loss of body heat is attenuated. On hot days, the bird presses its feathers tightly to the body, thus reducing the insulating air layer.

The functions of the feathers determine their arrangement and shape and, as a result, there are several varieties. Due to diversity of feathers, they must be differentiated according to their form, size, weight, elasticity, and coloring. They are divided into three groups according to their function. The first group comprises all coverts, especially the contour feathers, so-called soft feathers, which serve to protect the bird's body, and all the hard feathers of the wings and tail (remiges, rectrices). A rigid shaft and a coherent vane distinguish the latter. The second group includes the down feathers (plumules), which have neither shaft nor quill. They have instead a central point from which slender Barbs emanate in all directions. The feathers of this second group are called the under covering of the bird. The coverts of the first group, that is the outer covering, serve as heat insulators. The third group contains the hair feathers (filoplumes). They are inconspicuous, hair like feathers, each of which bears a small tuft of Barbs at its apex. Their function is to transmit sensations of touch. In most birds, the contour feathers are not uniformly distributed over the surface of the body. Those parts of the skin where feathers grow are called feather tracts, or pterylae; the regions of almost naked skin are

called apteria. Down is birds' fine, soft insulating feathers. Down that people use comes from ducks and geese. Eider down, the softest and warmest, often promoted as ideal, is the down of the Eider duck. Eider ducks use their down to line their nests and cover their eggs. Many people seeking soft and warm jackets, vests, coats, quilts, or pillows still have an outdated notion that down is "the best." Now that we know to take animals' well being into account, we know that down is only good when left on the birds. Down is the light fluffy coating clustered beneath the feathers of waterfowl that protect them. Most down can be found on the belly of geese and ducks. This is the part that is exposed to water and must keep the bird warm. Down is a three dimensional cluster with thousands of tiny fibers, but no quill. In every pound of feathers, there are only four to five ounces of down. As nature's most efficient insulator, down is warm, yet light and lofty. It takes 14 wool blankets to equal the temperature control of one down comforter. Additionally, down has the marvelous ability to breathe, lifting away perspiration so you don't experience the clamminess which often occurs with synthetics. Feathers have quills and are two-dimensional. They are the rigid plumage found on the outside of waterfowl, and can range in size from 5 cm to several inches. Smaller feathers are often used in bedding products such as feather beds, decorative pillows, and various feather and down blends. In bedding, feathers do provide some insulation, but are mostly used for support.

#### **MATERIAL AND METHOD**

Our information's were selected from People for the Ethical Treatment of Animals (PETA), FAO statistics animal department and internet sites about down and feathers.

#### **RESULTS AND DISCUSSION**

Although all birds have some feathers and down, virtually all down and feathers are harvested from geese and ducks. Geese, which are larger birds, generally have bigger down clusters. As a rule of thumb, the larger the bird and the colder the climate in which they live-the larger the down cluster and the higher the fill power of the down. High quality down can be found in both ducks and geese, as the age and climate of bird from different parts of the world dramatically affects its quality. Duck down and feathers are generally less expensive than goose down and feathers for two primary reasons: it's perceived in the U.S. bedding market as slightly inferior in quality to geese, and the worldwide supply of duck far exceeds that of geese.

Down and feathers can come in various shades ranging from pure white to black speckled grey. Typically, the industry has placed a premium on white feathers and down due to its ability to visually blend in better when filled into white bedding products. American perception has also reinforced this premium on white down over grey; however, there are many grades of grey down that rival the best white down, as color of the feathers and down has no relevance to its quality. Additionally, a newer trend abroad is that consumers are favoring lighter colored bird meat and this is causing white down to become more available than in the past. Many generations ago, some very clever entrepreneurs discovered that they could keep warm during the cold seasons by using a naturally occurring insulator found on waterfowl, such as geese and ducks. By cleaning and sanitizing the down and feathers, they can be used as an insulator for bedding, as well as apparel. Because down and feathers are a by-product of meat consumption, the geese and duck are mostly found in Europe and Asia, where they are more commonly eaten. About 65% of the world's production of feather and down comes from Asia, with the remaining source being mostly Eastern Europe. Generally, farmers sell the birds for their meat, and the down and feathers brokers will buy the raw merchandise to be sold to feather and down processors around the world. Supplies of goose, duck feathers and down are usually obtained in greater quantity around the Chinese New Year due to consumption of the bird's meat by consumers in Asia. Down supplies act like a commodity that is sensitive to

supply and demand not only from down bedding manufacturers but also by down apparel and sleeping bag makers. Supply and demand rises and falls with consumer and manufacturer needs and can not be estimated with any reliance.

Technical skills are needed to pluck the birds efficiently and some equipment may be necessary in order to handle the down and feathers properly. After the unwashed feathers and down are procured, they must be washed and processed for use in bedding and apparel. First, down and feathers are sent through huge washing machines that wash and rinse the raw goods to remove dirt, oil, and bacteria. The fill is then dried and sorted in large separating machines based on quality, feather size, etc.

Among these technical skills, some workers in Eastern European countries, the source of most commercially available down, use cruel techniques to plucked geese and ducks feathers and down. They rip the feathers by hand from the necks and breasts of live, fully conscious geese and ducks after tying their feet together and hanging them upside down. Afterwards, traumatized and in agony, the birds tremble uncontrollably and huddle together or find a structure to lean on for support in their shock. It takes them several days to recover. Workers allow the birds' feathers to grow back and subject them to the same ordeal four or five times in their lives. When performed by an experienced person, plucking live geese will not harm birds. The number of times geese may be plucked each year will depend on their general care and management. For bird safety has to be remove only the soft feathers on the breast, back and abdomen. As a rule, geese do not have to be plucked more than four times a year and never in winter. Geese are raised, above all, for the purpose of producing meat, then also for the production of feathers. By selling their feathers the profits can be substantially increased. Goose feathers usually sell for a higher price than other feathers, as they are superior (larger and softer than) to duck feathers and feathers from other waterfowl. From ten well-grown goslings will yield about 1 kg of dry feathers. The down and the soft body feathers are the most valuable. Feathers are washable in water. Before washing, the dry feathers are first dedusted. To wash 1 kg of feathers in a cylinder washing machine requires 150 - 300 lt water, depending upon the washing procedure. When washing pure down, water consumption is even higher.

Feathers and down have properties that no other filling material can match. They insulate well, are lightweight and readily transport moisture away from the body. When a down becomes moist (due to humidity from outside in down clothing, or by not airing a quill or sleeping bag enough) these highly appreciated properties will suffer. Application of an easy care finish reduces the impact of moisture on the filling. An easy care treatment is used on feathers and down for hospital bedding, allowing these articles to be washed frequently and even boiled, when using some special finishing agents.

From a technical point of view, there is no benefit to the user of bedding articles whether his filling materials consist of grey, white or very white feathers. A high degree of whiteness does appeal to the consumer however and is a good selling point. This is especially true if feathers are sold in loose form where the consumer selects his/her filling in the retail store. Most consumers will choose the whitest feather, associating a high degree of whiteness with purity and good quality. White feathers can be made whiter by treating them with an optical brightener in the wash bath, using a bleaching agent to transform a neutral white into a bluish white, or by bleaching in a steamer with hydrogen peroxide. Among the counties that raise geese, Italy has a "traditional" feather industry. The most important enterprises have existed for many years, some founded more than 100 years ago. The Italian feather industry produces about 7.500 tons of feathers each year, using very up-to-date machinery and technologies. In 1999 95% of the processed feathers have been imported and only the 5% comes from the internal production market. The turnover is about of 50 million U.S. Dollars per year. In this country, feathers and down are used for bedding and apparel, but the most

important quantities are used for furniture (as filling for upholstery cushions). In fact Italy is the most important worldwide market for the upholstery. For this field of application about 5.000 tons of dedowned goose and duck feathers are used. The producing feather industry sells directly to the upholstering manufactories, which uses the material to fill hand-made cushions. The advantages of feathers for upholstery fillings are: lightness and hygroscope, natural adaptability to the anatomical forms, safety towards fire (his protein-fibre is flame-retardant, i.e. shows low reaction to fire), very long endurance and maintenance of his value, completely biodegradable, so recyclable. In Austria feather/down quilts and pillows have a long tradition. Today about 50% of the population use down quilts. Down will remain an important filling for bedding, but synthetics will become more important. In Norway, Denmark and to some extent Iceland, feather and down quilts and pillows are part of the "sleeping" traditions. Before the advent of fibre-filled products nearly everybody - from cradle to grave - used feather and down quilts and pillows. Not so in Sweden and Finland. Woolen - or synthetic-blankets were - and still are - the tradition in these countries, although down quilts are now gaining popularity. Just like in Germany, Austria and Switzerland a feather quilt in the old days was simply a bag filled with feathers and down from the farmyard. But in the 1930s the modern, efficient down quilt saw the light of day in a Danish factory. In Japan are used articles like: down quilts- feather pillows Small quantities of: down wear (jackets), down comforters/mattresses. The articles used in the United States that is filled with down and feather fills fall into four main categories: bedding products, apparel, furniture cushions and outdoor sleeping bags. In the area of bedding products the feather- and down-filled products include comforters, coverlets/throws, blankets, mattress pads, and pillows. Apparel using these fills would include jackets, parkas, anoraks, vests, hats, gloves, pants, robes, and footwear. Furniture cushions would also include specialty forms for decorative and specialty pillows, which would not be considered bed pillows. Sleeping bags are a category of their own, and although not that large, it is still an important market segment.

Romania which have a great potential to raising geese for meat and implicit for feathers and down can take into account this economic opportunity and income for small holders.

### CONCLUSIONS:

1. Geese are raised, above all, for the purpose of producing meat, then also for the production of feathers. By selling their feathers the profits can be substantially increased.
2. Geese served as a source of writing quills, a source of feathers for bedding products, apparel, furniture cushions and outdoor sleeping bags as well as providing meat for the table.
3. High quality down can be found in both ducks and geese, as the age and climate of bird from different parts of the world dramatically affects its quality.
4. About 65% of the world's production of feather and down comes from Asia, with the remaining source being mostly Eastern Europe.

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