Dried Fruit and Vegetables in Romanian Traditional Cuisine

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A. Template for the recording of traditional composite foods

I. General and historical information:

In the past, dried fruit and vegetables were frequently used in the Romanian traditional cuisine. The climate conditions specific to Romania, with 4 seasons (winter, spring, summer and autumn), with a single agricultural harvest per year, have determined people since ancient times to concern themselves with conserving fruit and vegetables, in order to ensure their food supply between harvests, especially during the cold seasons.

Among fruit, they used to dry apples, pears, plums, apricots and grapes (those without kernels). These fruits had the most diversified and attractive alimentary uses.

Among vegetables, they used to dry the ones that wouldn't keep well and were often used in alimentation: green beans, pepper (green, hot, Kapia, bell pepper), dill, thyme, mushrooms (especially forest mushrooms). Other vegetables, which were often used in the traditional diet, were kept during the winter, as follows:

- Root plants were kept in the sand at the lowest temperature, but kept away from freezing, in a dry place, without light;
- Onion and garlic were intertwined into ropes and kept in a dry spot, away from freeze;
- Potatoes and leek were kept at low temperature, in a dry spot away from freeze and light;
- Cabbage was pickled lactic.

After 1960, when the food industry began to develop, other vegetables began to be dried as well, as for instance:

- Onion, used to prepare liver pate cans and garlic for the meat product industry;
- Root plants (carrots, parsley roots, parsnip, celery), which were used for alimentary dehydrated concentrates;
- Potatoes, out of which the famous potato flakes, are made.

After 1990 tomatoes began to be dried for producing cans of "tomatoes dried in oil". The drying process, which used to be done naturally in the sun, is without doubt the oldest method of conserving vegetables and fruit. Subsequently, the drying technique has progressed, by using heat generated by burning wood in adequate furnaces.

Today's technology is based on dehydration, which is a perfected procedure for drying. Dehydrated fruit and vegetables, when packaged accordingly, can be kept for a very long time, without need of freezers for storage.

The main ways of conserving fruit and vegetables today, by draining them of water are:

- The natural way of drying,
- The guided way of drying.

1. General and local name(s) of the recipe and raw ingredients used:

1.1. Etymology of these names:

It is necessary to explain two terms wrongly considered to be synonymous, namely:

- Drying;
- Dehydrating.

1.1.1 Explaining the word "dry":

Drying is to be defined as the natural process which, based on natural thermal transfer, ensures the evaporation of water on the surface of the product, thus allowing the materials found in nature to be dehumidified or exposed as paste, grains or slices etc.

The natural process of drying is aided by:

- The thermal transfer of the material exposed to drying, caused by air that is naturally heated by the sun;
- The evaporation of water from the surface of the material exposed to drying;
- The action of water vapors formed on the surface of the material exposed to drying;
- The migration of water from inside the material toward the surface;

Two agents contribute to drying:

- The material exposed to drying is heated on the surface, which causes that part of its surface humidity to transform into vapors;
- The air in nature is naturally heated by the sun and becomes a “gassy thermal agent”, which has a double role, usually:
    - To provide the necessary heat for drying;
    - To remove the vapors thus formed from the system.

Drying in the sun is one of the oldest ways to conserve fruit and vegetables. In the past, fruit and vegetables used to be left to dry in the sun, in sunny, airy places. The process of drying in sunlight would last for w few days, during which time the fruit and vegetables had to be protected against insects and birds, covered with a thin textile.

1.1.2. Explaining the word “dehydration”

Dehydration must be defined as an artificial process, based on the controlled and man made thermal transfer, through which the water contained by the material exposed to drying is practically vaporized, which allows for the dehumidification of the exposed materials into paste, grains, sheets, slates, cubes, circles etc or even in natural forms.

The artificial man made process of dehydration is aided by:

- The thermal transfer of artificially heated air for the material exposed to dehydration, obtained by using fuel or electricity;
- Vaporizing the water from the material exposed to dehydration;
- Forcefully making heated air to circulate artificially, in order to remove the water vapors emanated by the material exposed to drying.

Two agents contribute to dehydration:

- The material exposed to dehydration is heated, thus its temperature is raised in its entire mass, until the forceful evaporation dehumidifies it fully or partially;
- The artificially heated air is a “gassy thermal agent”, with a double role, usually:
    - To provide the heat necessary for vaporizing the water from the material exposed to dehydration;
    - To remove the vapors thus formed from the system.

Modern technology allows for fruits and vegetables to be dehydrated at increasingly lower temperatures.

1.1.3. Technical differences and similarities between drying and dehydration:

Dehydration and natural drying are processes based on reducing the water content, which determines the concentration of soluble substances to increase to values reaching the stability needed for preserving vegetables and fruit.

The elimination of water from vegetables and fruit must be done in such a way as to ensure that the content of hydrophilic colloids maintains its rehydrating capacity.

Drying is a natural process, done in nature, without the intervention of man.

Dehydration is an artificial process, conducted and controlled by man.

Both processes have the same purpose, namely to partially or totally dehumidify the exposed materials. By being dried out in the sunlight or dehydrated thermally, the weight of fresh fruit and vegetables decreases up to 5 – 10 times.

The drying and dehydration of fruit and vegetables is the technological process through which the natural water content is reduced to a level that prevents the activity of microorganisms, without destroying the tissues or devaluing the alimentary worth of the products.

Today, for economic reasons as well as for the sake of food safety, the dehumidification of fruit and vegetables is done in the following way:

- In individual households, but less so nowadays, the process of drying out in the sunlight being considered “the classical way of drying”;
- In organizations specialized in conserving fruit and vegetables, which practice dehydration, a process of drying forcefully, conducted and controlled by man.

It is important to specify on the label of the final product how it was dehumidified. The inscription must mention one of the following two lines:

- Naturally dried product;
- Dehydrated product.

During the drying process, but especially during the dehydration of fruit and vegetables, the following transformations occur to the prime matter:

- **Structure transformations** by wrinkling and the reduction of volume, due to the drop in water content and the contraction of the tissues;
- **Color transformations.** The color of the fruit or the vegetable is degraded, depending on temperature, the time it takes to eliminate water, the presence of heavy metals, the sugar content reduction, but it is also the result of oxidation processes;
- **Flavor and savor transformations.** When products are dehydrated with warm air, the resulting vapors cause a certain loss of flavor. In the case of natural drying, losses in flavor or savor are caused by the length of the process and the relative humidity of the environment they are exposed in.
- **The reduction of alimentary value.** During the process of dehydration, depending on the thermal regime, detectable transformations occur in the chemical composition of the products, which influences their alimentary value.

The process of dehydration determines certain modifications in fruit and vegetables, when compared to the fresh produce, namely:

- Their volume and weight is reduced;
- Their energy value increases;
- It is easier to cook them;
- A part of the useful chemical components is lost. Thermal treatments (heating, boiling, thermal dehydration) generally damage the initial quality. The phenomena produced by dehydration are owed to:
    - Water and carbon dioxide losses;
    - Protein degradation
    - Loss of vitamins.

In contrast, the content of carbohydrate and organic acids is preserved.

But, as a consequence, the reduction of weight also decreases the costs of transportation, handling and storage.

1.2. Scientific name of the raw ingredients used:

The prime matter that is used is constituted of fresh fruit and vegetables.

1.2.1. The scientific denomination for fruit that can be conserved by drying (dehydration):

Traditionally in Romania, the drying of fruit and vegetables was done naturally, in the outdoors. The fruits and vegetables mainly used in the traditional diet and used to be dried naturally were the following:

- Plums – *(Prunus domestica);*
- Apples – *(Malus domestica);*

- Pears - *(Pirus sativa);*
- Apricots - *(Armeniaca vulgaris);*
- Grapes - *(Vitis vinifera);*
- Forest Mushrooms – *(Boletus edulis);*
- Indigenous plants used as condiments:
    - Dill – *(Anethum graveolens);*
    - Celery leaves – *(Allium cepa);*
    - Thyme – *(Satureja hortensis), (Thymus vulgaris), (Thymus serpyllum);*
    - Mint – *(Mentha silvestris).*

We are not in possession of information from the past, but we have information pointing to the fact that, presently in some rural establishments from the counties of Oltenia and Buzau, in regular households, tomatoes are dried in the sun.

Figure 1: The plum

Figure 2: The apple

Figure 3: The pear

Figure 4: The apple

Figure 5: The grape

Figure 6: Tomatoes prepared for dehydration

1.2.2. **The scientific denomination for vegetables that can be conserved by drying (dehydration):**

Traditionally, the dehydration of vegetables was done in the bread oven, after the bread was taken out and a certain temperature was reached, so as to not damage the vegetables. The procedure that was used, called “conduction dehydration to atmospheric pressure” was done by letting the product touch upon a surface sufficiently hot, in a warm space, in which the evaporation of water took place.

In case the temperature increased significantly, major disadvantages would be manifested, as for example a negative influence of the dried product:

- Decreased solubility of protein (due to protein damage);
- Modified coloration of the finite product (due to the Maillard reaction and caramelization);
- Reduced alimentary value;
- Necessity to grind the products before consuming them.

The vegetables, which used to be dried:

- Green beans – *(Phaseolus vulgaris);*
- Pepper (green pepper, hot pepper, Kapia, bell pepper) – *(Capsicum annuum);*
- Forest mushrooms – *(Boletus edulis);*
- Carrot – *(Daucus carota satvia);*
- Parsnip – *(Pastinaca sativa hortensis);*
- Parsley root – *(Petroselinum hortense);*
- Celery root – *(Apium graveolens);*
- Onion bulb – *(Allium cepa);*
- Potatoes – *(Solanum tuberosum).*

Figure 7: Green beans

Figure 8: Green pepper

Figure 9: Hot pepper

Figure 10: Kapia pepper

Figure 11: Bell pepper

Figure 12: Forest mushrooms

Figure 13: Carrot

Figure 14: Parsnip

Figure 15: Parsley root

Figure 16: Celery root

Figure 17: Onion bulb

Figure 18: Garlic

Figure 19: Dill

Figure 20: Thyme

Figure 21: Celery leaves

Figure 22: Mint

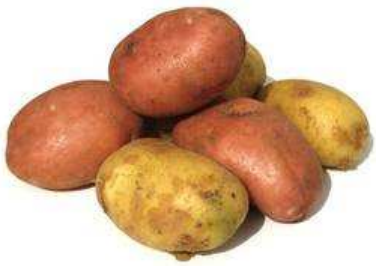

Figure 23: Potato

2. Main agricultural characteristics of the recipe ingredients grown locally. Origin of the rest of the ingredients:

2.1. The cultivation of the plum tree in Romania:

The plum tree has been grown in Romania for hundreds of years, being and staying one of the most popular tree species. The plum is found everywhere – in the planes, hillsides, family gardens or natural mountain chains (being multiplied by kernels), which is proof that that plum tree has adapted easily to the varied climate and soil conditions in Romania.

According to information from the history of tree cultivation on Romania, the country was on the second place in Europe for a long time, when it came to the surface dedicated to the plum tree and plum production.

- In 1925: 468.000 tons;

- In 1927: 554.000 tons;
- In 1930: 289.000 tons.

The Second World War also affected the cultivation of plum, especially because this was the dominant tree culture of Romania back then. So, during 1940 – 1945 almost 22 million plum trees were lost. The production of plums after the war was:

- In 1946: 224.000 tons;
- In 1948: 158.000 tons;
- In 1951: 130.000 tons.

Beginning with 1969 the production of plums increased:

- In 1960: 620.000 tons;
- In 1984: 835.000 tons;
- In 1985: 873.000 tons;
- In 1989: 765.000 tons.

After this, the production of plums decreased once again, while the following values were registered:

- In 1991: 419.000 tons;
- In 1992: 347.000 tons;
- In 1996: 252.000 tons.

Some of the foreign types introduced in Romania found their second homeland here. This is the case for the types Anna Spath, Agen, Vinete of Italy and recently Staneley.

In spite of this, in the last 40 years a Romania program of genetic amelioration has been developed to biologically support the diversity of local germination plasma resources, using the local types as basic genitors.

Presently, the basic type from the main tree growing centers is made of the following species: Fat Tuleu, Early Tuleu, Romanian Vinete, Century Plum, Valor, Sea Gull, Silvia, Blue Free.

2.2. The cultivation of the apple tree in Romania:

The apple tree (Malus domestica) is the main species of tree cultivated in all the areas in Romania, from the plains, to the hillside and down the mountains.

The history of cultivating apple trees is lost in time. The culture of the apple tree on the territory inhabited by Romanians is very old. The passionate anonymous tree growers who lived in these parts have contributed to the creation of qualitatively superior types, some of them being maintained in the culture even today, such as Cretesti, Domnesti, Patul etc.

In Romania, the apple tree comes second after the plum tree and represents almost 30% of the total surfaces of orchards.

The fresh fruit of the apple tree can be found on the market practically all year round – in the summer and autumn it is brought fresh from the orchard and in spring and winter from storage.

In 2000 the apple tree was cultivated in over 75000 ha, which gave a production of around 600.000 tons. The main counties where apples are grown are: Arges, Suceava, Mures, Maramures, Dambovita, Iasi, Bihor, Bistrita-Nasaud, Bacau, Salaj, Valcea.

2.3. The cultivation of the pear tree in Romania:

The pear (Pyrus communis) is a very fine fruit, which Homer, in 850 BC called “the gift of the gods”. Coming from Greece, pears spread to the rest of Europe, due to the Romans.

In Romania the cultivation of the pear is very old, known since the Dacians, a fact attested by:

- The numerous types of pears found here;
- The rich toponyms dealing with the pear (for instance Pear Village in Dolj county, mentioned in documents ever since 1595, Peris, Perisorul, the Hill of Pears, Perieni etc)

Alexandru Borza (1887 – 1971), the founder of geo-botanic in Romania showed in 1963 that:

- The first foreign types of pear were introduced and spread in Romania almost 450 years ago;
- The first description of 13 kinds of pears dates back to the year 1700.

In Romania, the cultivation of the pear represents about 4.5 % of the total of trees that are grown here, occupying the third place, after the plum tree and the apple tree.

The counties with the greatest pear production are: Arges, Dambovita, Bacau, Bihor, Neamt, Buzau, Suceava, etc.

Presently, about 80% of pear production comes from peasant households with a few trees or small family orchards.

Dehydrated pears are exported to Switzerland, where they are used to produce a traditional Swiss food.

2.4. The cultivation of the apricot tree in Romania:

The apricot tree (Prunus armeniaca) is a species very appreciated for its savory and perfumed fruit, used in consumption fresh, dehydrates or compote, jam, juice, nectar, liqueur.

Because the apricot has been cultivated in many countries since ancient times, it is not known exactly where this tree originates. In spite of this, the apricot tree is appreciated worldwide because of its succulent and flavor full fruits.

The cultivation of apricots is difficult, because it is a pretentious species, when it comes to climate and soil and is also affected by a disease not fully understood, which determines premature loss.

In Romania, the cultivation of apricot does not extend to the level of full potential, being in clear descent in latest years. If in 1991 the cultivation of apricot occupied 1.7 % of the plantation surfaces and 2.9 % of fruit production, respectively 43.000 tons, in 1999 this fruit's production dropped to 28.000 tons, and represented only 1.8% of the overall production of fruit.

The main counties that produce apricots in Romania are: Galati, Constanta, Calarasi, Ialomita, Olt, Teleorman, Dolj, Dambovita.

The advantage for Romania is that the apricot tree begins to produce fruit early on, within 2-4 years after plantation – it produces a lot of fruit, relatively constantly.

The disadvantage is that it tends to adapt harder to ecologic conditions, having a decreased resistance to the cold in particular.

2.5. The cultivation of grapes in Romania:

2.6.

Since the most ancient times, the grapevine has been cultivated on Romanian territory. Fossils found in our country demonstrate that grapevine existed here since the beginning of the third era.

The history of the cultivation of grapevine in Romania since ancient times has determined the writer and historian Bogdan Petriceicu Hasdeu (1836-1907, one of the greatest personalities of Romanian culture of all times) to state over a century ago, that "Romanians have always been and never ceased to be a nation of grape cultivators".

The areas where grapevine is cultivated are grouped in the following regions: the Transylvanian highlands, the hills of Moldova, Munteni, Oltenia, Crisana and Maramures, the hills of Dobrogea, the Danube terraces, the Sands and other favorable lands in the south.

2.5. The production of forest mushrooms in Romania:

The forest mushroom (Boletus edulis) is an edible type of mushroom, with a white thick leg and brownish-yellowish hat. The forest mushroom grows in the spontaneous flora, solitary or in groups. Its habitat is on surfaces dominated by:

- Oak trees (Quercus robur, Quercus petrea, Quercus palustris);
- Beech (Fagus sylvatica);
- Pine (Pinus sylvestris);
- Spruce
- Fir tree
- Chestnut (Castanea sativa);
- Birch (Betula penduala)

The forest mushroom is productive beginning in the summer and lasting until autumn, after abundant rainfall, but can also be found in autumn in large groups next to rotting oak tree wood.

In Romania, according to the order number 246 from April 14th 2006, the harvesting or purchasing of the following Boletus species is permitted:

- Boletus edulis: “manatarca”, the ashy forest mushroom;
- Boletus aerus: the black forest mushroom, “pitarca”, “pitoanca”;
- Boletus luteus: “pita”, the cow’s bread;
- Boletus subtomentosus: the lip of the goat;
- Boletus elegans: the buttery with a ring;
- Boletus luridus: “chitarca”, “pitarca”;
- Boletus badius: the “murg” forest mushroom;
- Boletus scaber: “chitarca”, birch sponge, monk sponge.

2.5.1. The synonyms for forest mushroom

The word “hrib” (forest mushroom) has several Romanian names, among which are: “manatarca”, “sponge” (regional word), “hoof”, “mitarca”, “pitarca”, or “pitoanca”.

2.5.2. The Etymology of the words “hrib” (forest mushroom) and “Boletus edulis”

The name “hrib” comes from the Ukrainian word “hryb”.

The scientific name (Boletus edulis) comes from:

- The Latin root “bolet” which means superior mushroom
- “edulis” meaning edible, expressing the culinary qualities of the species.

This mushroom has a distinct aroma and a pleasant smell. It has a big water concentration, compared to other mushrooms.

3. Short text (1-2 paragraphs) on the history of the recipe in the local area:

3.1. The History of drying fruit:

Drying fruit in Romania has a history just as ample as growing fruit trees. It is self understood that man was concerned since ancient times about how to conserve fruit harvested in the summer and autumn for the cold seasons. Gradually but surely, man invented the most efficient methods of drying a part of the fruit harvests, using rudimentary procedures in the beginning and perfected procedures later on, of:

- drying by grilling
- drying by grilling, while covered
- drying between vertical grills
- drying on suspended grills
- drying on rooftops – designed platforms
- drying on platforms specially constructed and equipped with tarpaulins
- drying in rows;
- drying in textile nets.

3.2. The history of drying vegetables and greens:

The history of drying vegetables is just as old as the history of drying fruit, the food of vegetable origins always represents an essential component of the Romanian diet.

3.3. The history of using dehydrated bean hulls in Romania:

Beans originate in Central America and it was brought to Europe by the Spanish conquistadors and was later spread to Asia.

In Romania, the first time beans were used in the alimentation was registered in the year 1742, and since then its hulls have become a part of traditional cuisine.

Often, the beans are called the “meat of the poor”, because they are rich in protein, the same as lentil. What is less known about beans is that its hulls are a very valuable food – medicine.

The craft of dehydrating bean hulls is traditionally from Transylvania and is spread today in rural areas from Mures (Archita, Feleac etc), Alba (Sibot, Vinerea, Cugir), Bistrita-Nasaud, Cluj (Marisel) and others.

3.4. The history of using dried mushrooms in Romania:

One classical method used in the past in Romania for conserving mushrooms is without question drying in the sun. The mushrooms, which were going to be dried in the sunlight, had to be healthy – without parasitical insects, without mold, without doubts as to its edibleness.

It is important to notice the priority given to the safety of edibleness of the mushrooms before they were dried, because it was known that, once they were dried it was practically impossible to choose between them.

In the past there were no artificial places for growing mushrooms. Mushrooms were harvested directly from the forest or the field. In order to avoid any unpleasant consequences, it was customary to dry sponges separately, forest mushrooms, “ciuciuleti”, “craitele”, the field champignon.

3.5 Using dried or dehydrated tomatoes:

In the Romanian culinary tradition, the household cuisine, dried tomatoes occupied an important and well-deserved place in the past. Even today an ancient practice is used in some households, which was very well spread 50 – 60 years ago. It is about drying tomatoes. A long time ago, in most personal households slices of tomatoes were left to dry in sunny and warm places, where there was a certain natural air circulation, kept away from insects, being preserved in order to be used in the winter.

The traditional drying in the sunlight was a cheaper process, which took place slowly and allowed the tomatoes to keep their smell, avoiding the loss of some nutritional substances, due to temperature and caramelization. This way of drying also had some negative particularities: the tomatoes somewhat lost their color, becoming brown, their nutritional value decreased and they could be affected by micro biological processes. This is why house women were very careful about the drying of tomatoes in the sunlight or in air. Dried tomatoes can be characterized this way:

- they have a strong, accentuated aroma, which frozen tomatoes don’t have, or the ones kept in the freezer, nor tomatoes conserved otherwise;
- they have a typical taste, sour and sweet, obtained from concentration due to drying, without having the sensation of a boiled product, which is characteristic of tomato paste;
- they have a specific consistency and this is why they are not boiled again during the preparation of food, keeping the shape of they pieces in any kind of food that is prepared.

3.6. The dehydration of potatoes:

Is a relatively recent practice, which dates from 1973, when the potato flake factory was put into use.

Traditionally, the potato was not dried in Romania. Presently, it is dried after being cleaned first of its inedible parts and transformed into mashed potatoes by boiling. The process is industrial.

4. Short text (1-2 paragraphs) on the importance of the recipe in the local diet, economy, religion and social life:

Dried fruit are considered true miracles for health. Prepared in autumn or summer, dried or dehydrated fruit, rich in vitamins, fiber, microelements, dries in the sunlight or dehydrated are preferably consumed in the winter and the spring, representing a correct solution for a balanced diet in the cold season. Still, dried fruit must be consumed in moderation, because of their high sugar and calorie intake.

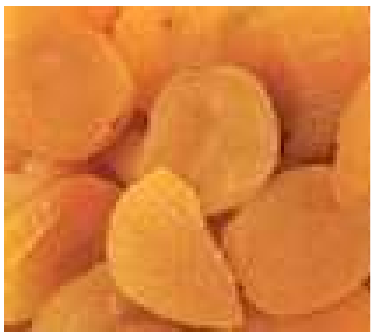

Figure 25: Dehydrated apricots

Figure 26: Dried plums

Figure 27: Apples dried in the sunlight

Figure 28: the drying of Kapia peppers tied to a rope

Dried and dehydrated fruit have a highly beneficial effect on the human organism. The main physiological actions are the following:

- hydrating effect, because they bring sugars and minerals to the organism.
- Diuretic effect, through the content of potassium, magnesium and sodium;
- Alkaline effect by transforming the salts of organic acids contained in alkaline carbonated in the organism
- Mineralization effect, by offering the human body mineral substances
- Laxative effect, due to the fibers contained
- Toning effect, through the vitamins contained

4.1. The role of dried and dehydrated plums in the diet:

Plums have a high content of fiber, carbohydrates, vitamins A and B, potassium, calcium and phosphorus. When they are consumed often they fortify the nervous system, fight against fatigue and stimulate the digestion. Dried plums have been used ever since the most ancient of time as a natural remedy, having multiple effects of the human organism, as for example:

- They regulates digestion and intestinal functions
- They better the functioning of the liver and pancreas
- They ameliorate rheumatic pains
- They contribute to the elimination of toxins from the organism
- They help in treating anemia due to the high intake of vitamins
- They help fight against free radicals and the prevention of diseases such as colon cancer, osteoarthritis (the aging of the joints), rheumatic arthritis

- They increase the immunity
- They fight against renal and bile afflictions
- They ameliorate fever
- They normalize appetite
- They are an optimum remedy against constipation and they prevent the forming of hemorrhoids
- They diminish inflammation.

Today dehydrated plums are an ideal method of natural treatment in the case of different afflictions of the organism. For detoxification, exclusive diets of dried or dehydrated plums can be held for 2 -3 days a couple of times per year. Dried or dehydrated plums are considered to be the ideal laxative.

4.2. The role of dehydrated bean hulls in the diet:

The dehydrated bean hulls are a medicine food too little known in Romania and generally in Europe. Although it is called “green beans”, the bean hulls are yellow, green or green with red lines. The color of bean hulls is determined by:

- The content of flavanones, substances with anti-inflammatory and anti-oxidant effects, which imprint the yellow color;
- The high content of chlorophyll, which has a depurative, anti-toxic action
- The antocyanic pigments, which have anti-tumor and strong anti-oxidant effects, and which imprint the orange color. Popular tradition attests that all varieties of bean hulls are good for the diet, with the condition that they be healthy, unaffected by diseases or pests. The more lively and intensely it is colored, the more therapeutically suited it is. The consumption of fresh or dehydrated beans has effect:
    - anti atherosclerotic, by decreasing the percentage of negative cholesterol (LDL), by preventing the oxidation and sedimentation of it on the walls of veins;
    - prevention of colon cancer, because the vitamins and the pigments in the hulls protect the cells of the larger intestine from the mutation action of some cancerous substances, frequently found in alimentation;
    - prevention of bile lithiasis, due to the content of alimentary fibers, which play an important role in cleaning the digestive tract;
    - anti diabetic, because due to the content of alimentary fiber it prevents the assimilation of sugars, by stimulating the activity of the pancreas. Still due to the high content of oxalates (salts of oxalic acid), hull beans must be consumed with prudence by people who suffer from renal lithiasis with oxalates.

4.3. The role of dehydrated apples in the diet:

Romanian popular medicine considers that the apple is a medicine food, a point of reference in the diet alimentation. Popular experience attributes a tonic, refreshing, anti septic, laxative, intestinal and sanguine depurative effect to the apple. In Romania fresh apples have a large variety of aromas and colors and are available throughout the year. In order to benefit from its entire therapeutic power, the apple must be eaten entirely, with peel, stem and seeds. The most important active substance in the apple is “pectin”. Due to pectin, apples can fight against:

- the effects of diarrhea, gastritis or colitis;
- the diverse eruptions on the skin
- acne.

Apples contribute to the healing of wounds, because they give elasticity to the tissues. The traditional diet recommends apples for decreasing cholesterol, in the case of fever, asthenia, fatigue, rheumatism, insomnia, nervousness, headaches, etc.

4.4. The role of dried or dehydrated apricots:

Apricots, which can be consumed fresh during the harvest, dried or dehydrated in the cold season are a rich source of magnesium, potassium, beta carotene, calcium, iron and the vitamins A C and B. They fight against anemia, infection with different viruses, speed up the healing of wounds, stimulate the activity of the liver and the heart and are an ally in the fight against cancer. If you will consume them before eating, you will have an easier digestion. In Europe apricots were considered for a long time to be an aphrodisiac. Due to the fiber content, dehydrated apricots are used for preventing or stopping constipation or for inducing diarrhea. The effects can be felt when consuming more dehydrated apricots. Compared to other dried or dehydrated fruit and vegetables, dehydrated apricots contain a bigger quantity of carotene. Carotene is an anti oxidant, which prevents different heart diseases, reduce cholesterol and protect against cancer. In traditional medicine, apricots were used for detoxification and the reduction of thirst.

4.5. The role of dried grapes in the diet:

By drying grapes, raisins are obtained. For conservation by drying the adequate kinds of grapes must be without seeds. Dried grapes contain fructose, have low sodium content and are a source of fiber, anti oxidants, vitamins, iron, potassium and calcium. Dried grapes help to:

- form and consolidate the bone structure;
- keeping the gums and the teeth healthy;
- protecting the mouth;
- better visual acuity (same as carrots)

The etymology of the specific terms that were used:

- apricot tree – a tree from the family of rosaceous, which blooms early, with white flowers with pink hue, which appear before the leaves, cultivated for its round, succulent, orange fruit, that have big kernels (armeniaca vulgaris). In Romanian, the word “cais” is a regressive derivative of the word “caisa”. It comes from the Turkish word “kayisi”, which in turn comes from the Greek word „*χασσια*”;
- Apricot – the fruit of the apricot tree, yellow – orange, tasty and perfumed. It comes from the neo Greek word “kaisi”;
- Apple – in Romanian it has a double meaning, namely:
    - tree from the family of rosaceous, with big oval hairy leaves, with rosy flowers and round fruit that are edible, rich in vitamins (Malus domestica). It comes from the Latin word “melus”;
    - the fruit of the apple tree, round shaped, in different colors. It comes from the Latin word “melum”;

- Pear – tree from the family of rosaceous with a pyramid like crown, with oval leaves, big flowers, white or pink, cultivated for its edible fruit, big, oval, juicy, yellow or yellowy-greenish and red on the side oriented toward the sun (Pirus sativa). It comes from the Latin word “pirus”.
- Pear – the fruit of the pear tree. It comes from the Latin word “pira”
- Plum - tree from the family of rosaceous, with white – green flowers, cultivated for its edible fruit (Prunus domestica). It comes from the Latin word “prunus”;
- Plum – the fruit of the plum tree, elongated, purple or yellowish, with a big kernel. It comes from the Latin word “pruna”.
- Grape – fruit of the grapevine, in the shape of a cluster. Uncertain origin, unknown etymology, probably local;
- Grapevine – a small tree with a nodular stalk and strong roots, with big leaves deeply carved and with fruit disposed into clusters, called grapes (Vitis vinifera). It comes from the Latin word “vitis”;
- Dried – without humidity. Comes from the word “exsucare”;
- Dehydrated – out of which water was eliminated completely or partially. It comes from the French word “deshydrater”.

Synonyms:

The word plum (tree) has as synonyms:

- In Moldova and Bucovina the word “perj”;
- In Moldova and Transylvania the word “pom” (tree);

The word plum has as synonym:

- In Moldova and Bucovina the word “perja”;

The word grape has as synonym:

- In Moldova and Bucovina the word “poama” (fruit);

The expression “dried fruit and vegetables” has as synonym:

- “dehydrated fruit and vegetables”.

Examples of traditional alimentary products, composites, prepared with dried or fumed fruits:

1. Food of fumed plums:

- **Ingredients:**
  - 0.500 kg fumed plums;
  - onion
  - salt
  - 2 spoons of sugar
  - 1 spoon wheat flour
  - 1 glass of white wine (100 ml)
  - 1 glass sunflower oil (75 ml).

- **Preparation:**
  - The fumed plums are cleaned and are placed in warm water for an hour;
  - The fumed plums are removed from the warm water and are left to boil in a deep pot;
  - The onion is cleaned, washed and mashed;
  - The mashed onion is fried in sunflower oil;
  - After the onion becomes glassy, it is put in a glass of warm water, in which a spoon of wheat flour was mixed;
  - The onion is poured on top of the boiled fumed plums, after they have been boiling for half an hour;
  - The mix is left to boil in an open pot, on a small fire;
  - A glass of white wine is added and it is left to evaporate;
  - When the plums look like fresh plums, a sauce of sugar is added and the mix is left to boil for 10 minutes.

The food is served cold.

2. Food of dried plums with rice (a traditional Romanian product):

- **Ingredients:**
  - 0.500 g dried plums;
  - a glass of rice (250 ml);
  - onion of a medium size
  - 3 spoons of sunflower oil;
  - 2-4 spoons of sugar;
  - salt;
  - pepper;

- sweet pepper sprinkle.

- **Preparation:**
  - The fleshy dried plums are picked and their kernels are removed;
  - The plums are washed in water;
  - They are left in cold water for a half of hour;
  - Clean water is poured into a pot and the plums are put inside of it with 2 spoons of sugar and is left to boil;
  - When the water beings to boil and the plums are swollen, they are removed and left to drip;
  - Separately, onion is cleaned, washed and mashed;
  - The mashed onion is fried in sunflower oil with a little salt and is mixed with the washed rice;
  - It is kept on the fire for 5 minutes;
  - The boiled plums are put on top of the onion and rice, warm water is added, so as to cover the rice three times over;
  - The pot covered with tin foil is introduced in the preheated oven and after 10 minutes, salt is added;
  - 15 minutes later the rice is checked out (if it boiled) and if its level has risen;
  - it can be spiced with freshly grinded pepper or sweet pepper sprinkle

  It is served warm or cold as a second course.

As alternatives:

- The onion can be boiled before frying;
- Onion can be removed from the recipe, if the consumers suffer from liver problems.

3. Dried plum food (a Romanian traditional product):

- **Ingredients:**
  - Dried plums 0.5 kg;
  - Sugar – 2-3 spoons
  - Wheat flour – one spoon;
  - Sunflower oil 2-3 spoons;
  - Salt;
- **Preparation:**
  - The sugar is caramelized and after it turns golden, 250 ml of water are added. It is left to dissolve;
  - The flour is mixed with sunflower oil and with water. Then it is poured on top of the sugary syrup;
  - It is left to boil;
  - Dried plums are added, well washed. After 5 minutes, the food is ready.

2. Preparation procedure:

Written information regarding the traditional procedures used in the past by the Romanian population for the drying in the sun and the homely dehydration of fruit and vegetables is not to be found in the relevant literature. The information that was perpetuated and that has a guarantee of authenticity is:

- Verbal information transmitted across generations, obtained from the elderly;
- Direct observations, gathered through observation of these processes.

Traditionally, the drying or dehydration of fruit and vegetables in the household is done in 2 ways:

- Drying in the sun (an efficient method, ecological, which necessitates time and guarantees the quality of the product)
- Dehydration in the oven (a quicker method, which in order to give good results necessitates constant observation).

1. Drying in the sun:

Drying with the help of solar energy is easier to do. With this purpose the fruit and vegetables are placed on drying grills, at the height of 15-20 cm, to allow the circulation of air on the top and the bottom. The grills can be made of wood or plastic. Depending on their size, the fruit and vegetables can be cut into halves, quarters, slices. Some of them, such as plums, beans, green peppers, hot peppers, thyme, dill, mint, celery leaves are dried whole. Sliced tomatoes dry up easier if they are salted. Drying in the sun can last for a few days up to 2-3 weeks, being influenced by the water content of the fruit or the vegetable and by the temperature and the circulation of air. The warmer the air the more it absorbs water vapors and speeds up the drying. A slight wind speeds up the drying, while a stronger wind is not as beneficial, because it brings with dust particles, which dirty up the fruit and vegetables. The grills must be placed in sunny areas, where they are safe from dust, flies and unpleasant smells.

The grill supports can be made of wood, prefabricated plaques, concrete, rods, but their height must not exceed 20 cm.

The quantity of fruit and vegetables on 1 square meter of surface exposed to sunlight for drying must have the following limits:

- Fruits:
  - Cherries 6-8 kg;
  - Sour cherries 8-10 kg;
  - Sliced apricots 4-5 kg;
  - Sliced pears 13 kg;
  - Whole plums 10 kg;
- Vegetables:
  - Beans 3-5 kg;
  - Green pepper 4-5 kg;
  - Whole kapia peppers 10 kg;
  - Sliced kapia peppers 5 kg;
  - Sliced bell peppers 8 kg.

The fruit and vegetables must be turned over every 24 hours.

The method of drying in the sun is efficient between the 25th of June and the 5th of September, when the temperature is at least 20 degrees.

During the drying, the vegetables and fruit must be covered overnight with a foil against humidity. Also, they must be kept safe from the rain.

Drying in the sun can last up to 10 days, depending on the intensity of the sun, the quality and quantity of the fruit and vegetables that are left to dry.

2. Traditional technologies for the preparation of fruit and vegetables:

The technology for drying in the sun is similar for fruit and for vegetables, with a few small differences, depending on the species. If the temperature in the over is 90 degrees Celsius, the door must be left open to allow steam to be evacuated. In this case it is very important that after an hour in the oven, pieces that have already dried up must be removed, in order to avoid their caramelization or turning brown. The fruit and vegetables must be periodically turned over in the oven. Checking the degree of dehydration must be done every 30 minutes, until the temperature decreased to 65 degrees.

2.1. The preparation of dried apples:

The process is simple, but must be done carefully:

- Big, healthy apples are picked, preferably Ionatan or Cretesti types. The apples must not have darker spots.
- The apples are sliced (0.5 cm thick);
- The slices are dipped for a few minutes in water and lemon juice, so as to avoid oxidation;
- The slices are then removed and left to drip;
- The slices are put on a string in such a way that they don't overlap, they are covered in textile, to avoid the access of birds or insects;
- The string is left in the sun, where it is protected from harmful environment factors. The length of the natural drying process can be of up to 4 days;
- Every day the evolution of the drying must be checked on.

The slices of dried apples must be elastic – gummy, but if they are bent, they break.

The slices of dried apples must be packaged in airtight bags, in order to avoid rehydration.

2.2. The drying of mushrooms in the sun:

The forest mushrooms and yellow mushrooms are best suited for drying. The preparation of mushrooms for drying in the sun consists of:

- Carefully checking every single mushroom, to confirm it belongs to the conserved species;
- Cleaning them of any damaged parts, including their legs, when they are too hard;
- Cleaning them of the most obvious traces of earth.

Attention!

The mushrooms are not to be washed before drying. They will be washed before consumption.

In the case of drying forest mushrooms, the tubes from the inferior side of the hat can be kept if they are in perfect condition and not overgrown;

- They are sliced from top to bottom into slices of 2 mm.
- The slices are placed on grills or thin nets, even on wooden plaques that are clean and dry, covered as much as possible with cotton texture. This measure of protection prevents insects from laying eggs or damaging the mushrooms;
- The mushrooms can be placed on a resistant string, with a thick needle, leaving 1 cm between them on the string. The string is hung up in a dry and warm place;
- The mushrooms are left to air, exposed to the sunlight, if it is not too strong. During the drying in the humid periods or at night, the mushrooms must be brought in dry places, so as to avoid their humidification.

When the slices become tough and are no longer humid if squeezed between the fingers, they can be placed in textile bags, kept in airy, dry places. After the mushrooms are perfectly dry, they can be kept in glass bowls, in metal bowls or in plastic bags.

When they are consumed, they must be washed well and then left in warm water for 12 hours for rehydration. The length of the rehydration is of about one hour. After that, the mushrooms are left to drip and can be prepared for consumption.

2.3. Drying peppers in the air:

The peppers must be tied on a string and placed in a warm place, but sheltered from the direct hot sunrays.

2.4. Drying greens in the sunlight:

Greens (lovage, dill, thyme, rosemary, mint and other aromatic plants) must be plucked in the morning after the dew has evaporated. It is not necessary to boil them before drying – only to wash them and clean them of yellow leaves.

The can be dried whole or in bouquets, in shady places or fully introduced in paper bags. They can be chopped up and spread across a plane surface and periodically turned over. After drying they can be kept whole or can be pressed against the palms and placed in jars.

3. The usual way of dehydrating fruit and vegetables:

Dehydrated fruit and vegetables must be left to cool and then packaged.

4. Traditional technologies for dehydrating fruit and vegetables:

The dehydration technology has 3 stages:

- Preparing the fruit and vegetables for dehydration;
- The dehydration, characterized by 2 important factors: the duration and the temperature, specific for each species;
- Packaging and storage.

4.1. The preparation of dehydrated apples:

- The first part of the process, until the slices removed from the lemon flavored water are left to drip, is similar to that of apples dried in the sun;
- Then the slices are placed in the oven, on baking paper, while being careful that they don't overlap;
- The trays of apple slices are introduced in the oven at a temperature of 65-67 degrees Celsius. The duration is of 6-8 hours;
- The evolution of the dehydration process is checked every half of hour. During the dehydration it is not recommended to turn the apple slices over, because they might break.

The dried apple slices must be elastic – gummy, but if they are bent, they ought to break.

The dried apple slices must be packaged in airtight bags, so as to avoid rehydration.

There is also an option to initially clean the apples of their peel and seeds. With this in mind a tool for making wholes is used. The slices obtained in this way presented in Figure 21.

Figure 29: Apple slices without seeds

Figure 30: Dill left to dry

4.2. The traditional dehydration of bean hulls:

The traditional procedure of obtaining dehydrated bean hulls is relatively simple:

- The hulls with relatively small beans are boiled for 10 minutes in water of 80-85 degrees Celsius and are then felt to drip;
- The boiled beans are placed uniformly in clean metal trays and they are introduced in the bread oven, after the bread was removed. The temperature of the oven must be of 65-67 degrees;
- The door to the oven is then closed, to not let the heat escape. The evaporation of water is done through the oven's system;
- Two hours later the beans are checked on. The dried beans are removed from the oven, are left to cool and are packaged in bags or waterproof bags, to avoid humidity and even rehydration, which could mould.
- If after 24 hours the beans do not seem completely dry (they are still elastic) they are left in the oven for another 24 hours, with door closed and are checked on again.

4.3. The production of fumed dry plums:

Fumed dried plums are a traditional product from Moldova and Bucovina. There are plumbs of the following types: Brumarie, Vanat Romanesc, dehydrated in hot air and fumed with wood smoke, that is obtained from any kind of wood of hard essence, except for pine wood.

The dehydration temperature – fuming is 45... 90 degrees, while the duration of the process is of 48 hours. The duration of dehydration – fuming can vary, depending on the dimensions of the fruit, the temperature and the external atmospheric factors, especially the relative temperature and humidity.

Fumed dehydrated plums have a homogenous, elastic content, dried and fumed all over, with a very intense taste and smell of fume, easily detectible.

The fumed dehydrated plum has a wrinkled peel that shines with dark blue reflections. The quality of fumed dehydrated plums depends on the specialization and experience of those who make them.

The Storage of dried or dehydrated fruit and vegetables:

By drying and dehydration, the humidity of fruit and vegetables drops from 75-90% (in a fresh state) to 5-20% in the final product.

For the maintenance of quality in dried and dehydrated produce, rehydration must be avoided. The main agent of rehydration is the humidity in the air. For this reason, the produce must be kept in airtight packaging and their storage must be in a dry, cool place, away from light.

III. Flow chart

The general flux diagram was elaborated (the frame diagram) for the dehydration of fruit and vegetables, presented in the annex.

IV. Traditional character:

In this text the traditional character of dried and dehydrated fruit and vegetables was presented.

V. Photographs

Were presented in the text, whenever they were referenced.

VI. Other information:

In this chapter a few pieces of information are offered, which can underline a certain resonance of producing and using naturally dried and dehydrated fruit and vegetables in alimentary purposes, in the population's households:

In the life of the Romanian people there is a tradition, according to which:

- If the apple harvest in autumn is good, then more boys will be born the next year;
- If the pear production is plentiful, then more girls will be born the next year.

Another piece of information left to us by the elderly, says that the apple only begins to ripen at night in the dew.

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One of the most popular sayings of the 19th century is: “An apple a day keeps the doctor away”. Although the importance of eating apples daily had not yet been studied, regular people realized the good effects apples had on their health.

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There is a saying: the apricot’s branch does not fall far from the tree. This saying came to be, due to the fact that the apricot tree needs a special soil in which to grow. It prefers a well-drained soil with a ph of 6.0 – 7.0. Around the “mother” apricot tree, such a soil is to be found – otherwise the tree would not have developed.

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In the oral popular Romanian tradition the significance of dreaming about dried plums was kept, the fruit most often conserved by drying or by dehydration and fuming. So, it is said that:

- If you dream about eating dried plums, you will have a long life;
- If you dream about dried plums, it is a good dream, which gives you the hope of having your wishes come true.