

MAKING MEDICINAL PLANTS COMPLIANT WITH STANDARDS**TOSHMUXAMEDOV MUSLIMJON ALISHER O'G'LI**

Medicinal plants can be brought to reception points in various forms, i.e., in situations that do not meet standard requirements, by teams and individuals who do not have sufficient knowledge. Therefore, it is necessary to put the products in containers (packaging) and make them meet certain requirements before sending them to warehouses.

The following actions must be taken to standardize medicinal products:

1. Cleaning from impurities. Due to the inexperience of the preparation staff, hasty and sloppy work, the medicinal products delivered to the reception points may contain various impurities.

These compounds are divided into organic and mineral compounds.

Organic compounds that resemble or grow near a medicinal plant includes parts of other plants, hay, straw, coal, etc., and the part of this medicinal plant that does not have medicinal properties.

Mineral mixtures usually consist of slag, stone, soil, sand, and glass, ceramic, and porcelain fragments.

To bring the product to a standard state, it must be cleaned of impurities. For this purpose, the medicinal plant is cleaned of impurities and separated into varieties using special devices or sifting by hand, and in some cases (to separate the mixture of flowers and leaves from the above-ground part of the plant) the product is first crushed by machines and then sifted, stem and branches are separated.

2. Separation of defective parts of the product. If the medicinal plant is prepared when it is raining, the rain has passed, but the plant has not yet dried, and there is a lot of moisture in the air, before the morning dew has yet risen from the plant, it is drying. may turn yellow or darken during If the product is prepared correctly, the air is dry, but if it is not dried properly, they can turn yellow or black.

If they are more than the specified amount, it will affect the quality of the product. Therefore, the medicinal product is separated into varieties and cleaned of blackened and yellowed parts.

3. *Cleaning the product from the crushed part.* The amount of crushed part in the medicinal product is limited based on the relevant standard documents. Because if the crushed part of the product is more than the norm, its quality indicator is considered low. For this reason, in order to make the medicinal product meet the standard requirements, it is cleaned from the crushed part. For this, the product is sifted in sieves with the necessary holes that meet the relevant requirements.

4. *Re-drying the product.* Medicinal plants received at reception points are often insufficiently dried. In addition, these products may become slightly damp during the storage period (because they are not immediately delivered to the receiving points by the preparers) and during transportation to the receiving points, depending on the conditions. Even later, these products lose their quality by becoming moldy, yellowing or darkening during storage in warehouses or in pharmacies and laboratories. To preserve the value of the product, it is re-dried until the specified moisture content remains.

5. *Grinding the product.* Most of the products are sent to pharmacies in crushed form (cut into small pieces or powder). The products are stored whole and uncrushed only in warehouses so that they do not spoil quickly and lose their quality. Grinding of products (cutting leaves, crushing the surface of the earth, cutting the roots and rhizomes into cubes, turning them into powder) is carried out with the help of machines. The degree to which each product should be crushed is based on the appropriate standards, and this work is performed at centralized and adapted reception points.

Standard medicinal products are packaged differently depending on the type. Placement (packaging) of medicinal products in containers should ensure their preservation from external influences and spillage, scattering, without changing their

quality and appearance within the period of use, as well as their shipment and transportation by means of transport.

Bags, bags (packages), boxes and boxes made of wood and cardboard, as well as boxes for placement, etc., are used for placing products. The containers used must be dry, clean, odorless and identical for each batch.

The containers in which the products are placed, the weight of the products in the container is determined depending on the type of medicinal products and they are indicated in the relevant regulatory documents, for example, the pharmacopoeia article (FM) and GOSTs. The following containers are used for packaging dried medicinal products. Bags made of fabric according to GOST 19317-73 or bags woven from flax-jute-hemp fibers according to GOST 18225-72. These bags can be used as one or two layers. The mouth of the bags is sewn by hand (with hemp thread according to GOST 17308-85) or by machine (with linen thread according to GOST 14061-85). The weight of the product in the bag should not exceed 40 kg. Multi-layer paper bags according to GOST 2226-75 and double or single-layer paper bags according to GOST 24370-80. The mouths of paper bags and bags filled with products are sewn by hand or by machine with the above-mentioned threads. Special papers (in accordance with GOST 2229-81 E and GOST 1760-81) are used for making one or two-layer bags. The product should not be more than 15 kg in a paper bag and 5 kg in a paper bag. Long and six-sided box-shaped balls made of fabric according to GOST 19298-73. No more than 50 kg of medicinal products are put into the horses and their mouths are sewn up by hand or by machine with the above-mentioned special threads. Sometimes unstitched toys are also used. Boxes made of wood according to GOST 5959-80. The boxes are filled with B-grade paper (GOST 8273-75) or bag sewing paper (GOST 2228-81) specified in the relevant GOSTs, and then filled with medicinal products. Medicinal products weighing up to 30 kg are placed in wooden boxes. Then its cover is nailed. Cardboard boxes according to GOST 15629-83. Before filling these boxes with medicinal products, appropriate papers are placed inside them. At the end, cardboard boxes are glued with special

adhesive paper tapes or wrapped with steel wire on both sides (GOST 32822-74). The weight of medicinal products packed in cardboard boxes should not exceed 25 kg. Containers necessary for placing medicinal products are selected according to the relevant GOST depending on the type and characteristics of these products. For example:

- the above-ground part of plants, leaves, bark, sometimes flowers, roots and rhizomes are usually first pressed and then placed in special cooling boxes. This method is cheaper than bagging and packing, and it protects the medicinal product from heat, moisture, and sunlight during transportation or storage.

- Dried fruits, nuts and some expensive and heavy products are stored in double-layered bags.

- Light medicinal products that cannot be filled are placed in large double-layered bags, quickly crushed chamomile flowers, marigold flowers, pine buds, etc.

Boxes made of paper (cardboard), paper and polyethylene bags, etc. are used in the packaging of medicinal products for sale to the population according to GOST 64-026-87.

In what containers and how many medicinal products should be packed, as well as how the mouths of bags and boxes should be glued with glue, how many bags and boxes should be placed in boxes for sending to pharmacies and warehouses are indicated in the relevant regulatory and technical documents. After placing the medicinal product in containers, complete information about this product is written (labeled) or a corresponding label is hung on the container in which they are placed.

In accordance with GOST 17768-80, the following must be written on the container of medicinal products (cardboard box, polyethylene bag, box, etc.) that is released to pharmacies for sale:

- the ministry, the company that prepared it and its trademark;
- name of the product in Latin, Russian and Uzbek;

- product weight, method of use, storage conditions, registered number, serial number, storage period and price in the state of maximum moisture.

According to GOST 14192-77, the following should be written on the container of the medicinal product sent by means of transport: the ministry (institution, department), the name of the sending enterprise, the name of the product, the net (net) of the product in the most permissible state of moisture. weight, combined (gross) weight with container, year and month of manufacture, batch number, level and number of the normative-technical document (MTX) of the specified product.

Prepared, dried and packaged products should be sent to places where they are stored and used in a timely manner. If the appropriate rules are not observed when sending products by means of transport, it can get wet, crumble and lose its quality due to other reasons. Medicinal products are shipped in dry, clean, odorless, covered vehicles according to GOST 14192-77 and GOST 17768-80. Medicinal products with poisonous, strong effect and containing essential oil should be sent separately from other products in different vehicles (some cars, some railway wagons, etc.).

Prepared medicinal products are stored in bulk (centralized warehouses, factories, factory and laboratory warehouses) or in their own quantities (in pharmacies) for a certain period of time before use. During this period, certain rules must be followed so that the medicinal product does not lose its quality and value. Buildings and rooms where medicinal products are stored should be clean, dry and ventilated. The products must not be exposed to the sun, and the floor and walls of the room must be clean. Medicinal products are placed on special racks or shelves. The height of the gutters should be up to 4 m, the width should be 1.5 m, the distance to the wall should be 25 cm, the distance between the gutters should be 50 cm, and the height from the floor should not be less than 15-20 cm.

Rooms where medicinal products are stored should be cleaned daily, room temperature should be 10-15°. To store medicinal products, it is necessary to divide

them into groups. Medicinal products that are poisonous and have a strong effect, for example, belladonna, angishvonagul, marvaridgul, bangidevona, mingdevona, etc., should be kept in separate rooms. Medicinal products containing essential oil should be kept in separate rooms or away from other medicinal products as much as possible. Dried fruits, for example, raspberries, blueberries, etc., should be stored in a well-ventilated place or hung if the quantity of the product is small. Insects and rodents will take revenge on these fruits. Because of this, it can quickly become wormy. A label is attached to each medicinal product. The name of the product, when, where, who made it, and when it was delivered to the warehouse are written on the label.

In addition to the general label, a pink label is also attached to poisonous medicinal products. The shelf life of medicinal products is different, and this period depends on the structure of chemical compounds contained in medicinal products. The shelf life of official medicinal products (included in the State Pharmacopoeia) is determined by the Ministry of Health. Medicinal products not included in the State Pharmacopoeia are inspected once a year according to the instructions of the State Pharmacopoeia Committee. After the shelf life of medicinal products, the amount of active chemical compounds or the strength of their effect is determined. If the analysis result does not meet the standard requirement, the product is discarded. If a defect is detected during the storage period of the medicinal product, it is analyzed quickly without waiting for the shelf life of the medicinal product.

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