Effects of different drying methods on the quality of granular fruits and vegetables

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Fresh fruits and vegetables contain a lot of water and are nutritious, so it is suitable
It is suitable for microbial growth. Causes decay. Dried fruits and vegetables, about fruits and vegetables
Excessive moisture removal, microbial reproduction and enzyme activity are affected
Inhibition is conducive to the long-term preservation of dry products. Use suitable drying
Process and drying equipment to maximize the range of fruits and vegetables while dehydrating
Retention of its nutrients and sensory quality, minimizing the damage of nutrients in fruits and vegetables during the drying process and the color and other aspects
influences. Therefore, different drying methods have a great impact on product quality.
Of course, economic factors such as energy consumption, equipment investment and operating costs are also
It is a very important reference factor when choosing a drying method.
The selection of the case is always in terms of product quality, energy consumption and equipment investment.
After weighing, we can determine that most fruits and vegetables are hot air drying methods.
(AD) dehydration, but there is a slow drying speed, long dehydration time, product
A common problem of poor quality. Freeze-drying (FD) technology can be larger
To preserve the natural quality and nutritional value of the product, but dry
The time is too long, the equipment is expensive, and the production cost is high, making it suitable for use.
The circumference is limited [2]. Vacuum microwave drying (VMD) will microwave technology
Combine with vacuum technology to give full play to microwave heating and speed
Uniform, low water vaporization point under vacuum conditions, is in many ways
Get more and more attention and application. Combination of vacuum micro-flow and hot air
Drying method (AD+VMD), that is, using hot air to water the fruits and vegetables in the early stage
Dry to 40% to 60%, dry in vacuum microwave to final water
Points, which can reduce the drying load of microwave equipment, thereby reducing
Equipment investment can greatly improve its drying speed and ensure product quality
the amount"".
The above different drying methods also affect the quality of fruits and vegetables.
There are differences, mainly including nutrients such as VC and chlorophyll
Chemical changes in life and physical properties such as shrinkage (density) and rehydration change. Through experiments, vacuum microwave drying, hot air and true
4 kinds of dry microwave combined drying, conventional hot air drying and freeze drying
Different drying methods for the protection of granular fruits and vegetables in Vc and chlorophyll
Comparison of changes in retention, color, shrinkage and rehydration performance
Analyze to provide a suitable drying method for dehydration of fruits and vegetables reference.

1 Materials and methods
1.1 Test materials
Quick-frozen edamame, provided by Haitong Food Co., Ltd., average
The initial moisture content fraction was 71%.
1.2 Test equipment and equipment
Test WZD4S-I microwave vacuum drying equipment: Nanjing
Sanle Microwave Technology Development Co., Ltd.; UFREEZE
DRYING-03 type freeze dryer: Xiamen Youlian refrigeration equipment has
Limited company production; SHT series steam vegetable drying and dehydrating machine: upper
Bengbu Juying Enterprise Co., Ltd. produces; 752 "Lingguang" brand UV
See spectrophotometer, wsC_s "Shenguang" brand colorimeter: both
Shanghai Precision Instrument Co., Ltd. production; FEDll5 "Binder" brand can be
Programming electric hot air circulation oven: produced by Binder Company of Germany;
FAll04 "HANGPING" brand electronic balance: Shanghai balance instrument
Factory production; ZKJ-1 type circulating water vacuum pump: Shanghai Jiapeng Technology has
Limited company production; high speed centrifuge: Shanghai Anting Scientific Instrument Factory
produce.
1.3 Test methods
1.3.1 Process pretreatment mainly includes: edamame 1 000 g
After thawing, soak for 1 h with 3 g/dL brine, slightly drain 10 rain
It can be dried afterwards.