

How dry pet food is made

Dry pet foods are made by mixing dry and wet ingredients together to form a dough. In the extrusion process, the dough is heated under pressure, then pushed through a die machine that cuts the kibbles while they are expanded due to the pressure change. Kibble size and shape varies according to the product specification. The kibbles are dried, cooled and spray coated. Some dry foods may also be produced by means other than extrusion, such as baking.

Ingredient selection and sourcing

Many of the ingredients used in the manufacture of pet food are described as animal (or fish) derivatives or by-products. These ingredients are the parts of the animal surplus to the requirements of the human food industry. Examples of by-products include liver, kidney, lung and various by-product meals; they all are fit for human consumption as they have been through a veterinary inspection. These ingredients come from species also most commonly found within the human food chain.

In dry pet foods, animal derivatives are commonly used in a meal form (such as chicken meal, poultry by-product meal) where they are cooked, the fat removed and the remaining material dried to create a dry meal. By-products may also be used in fresh or frozen form. Many of the other ingredients such as cereals, grains, and vegetables used in dry pet foods come in dry form and are milled or ground prior to mixing. A recipe is also likely to include oils and fats, vitamins and minerals required to ensure the product delivers all the essential nutrients.

There are several different types, or formats, of manufactured pet food including wet (can, pouch, tray), dry (extruded or baked), cold pressed and raw. The label will indicate if the pet food is 'complete' or 'complementary'. 'Complete' means the product contains all the nutrients a pet needs for healthy bodily function in each daily ration, whilst a 'complementary' pet food e.g. treats will need to be fed along other sources of food to provide the right nutrition. The method of production and the ingredients used varies according to format.



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Ingredient weighing and preparation

Ingredients are carefully selected according to a pet food manufacturer's specific recipe, formulated to deliver complete and balanced nutrition for cats and dogs. Dry ingredients are ground and sieved where required and then mixed.

Cooking and cooling

The dry mix is combined with wet ingredients, water and steam in a preconditioner, which hydrates the powders, creates a dough and starts the cooking process. The dough then enters a machine known as an extruder, which cooks the dough under pressure. At the end of the extruder the dough exits under pressure through a die plate creating ribbons of pre-specified shape that are then sliced, while they expand, into the pre-specified size using a rotary cutter.

After extrusion and cutting the kibbles are air dried in an oven to remove water and then cooled. Reducing the moisture content is an important step in maintaining freshness and preventing food spoilage. When baked, the dough is rolled out and cut into shapes, then baked in an oven (similar to cookies or biscuits).

Kibble coating

After drying and cooling, kibbles often enter a revolving drum where they are evenly coated with a mix of flavours to enhance taste, and preservatives to prevent spoilage through the shelf life of the food. Flavours or other coatings may also be sprayed on baked foods as they exit the oven.

Packaging

Packs are filled according to the declared weight and the packaging is appropriately sealed to prevent contamination.

Storage and distribution

Packages are stored in boxes or wrapped on pallets and stored in warehouses ready for distribution to customers.



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Pet food safety and quality

Whatever the pet food format, all pet foods are subject to strict legislation to ensure safe, quality products. In addition to the legislation, FEDIAF members follow industry Codes of Practice such as the [Guide to the Manufacture of Safe Pet Food](#).

Please check out our video on how pet food is made:
www.fediaf.org/prepared-pet-foods/recipes-and-processing.html

