

SPRAY DRIED PLASMA FOR DOGS AND CATS

Over the last 25 years, Spray Dried Plasma (SDP) has become a commonly used binder ingredient in canned pet food diets. However, in addition to the functional technological properties, SDP is an excellent palatant for dogs and especially cats, an attribute the pet industry is quickly beginning to recognize.

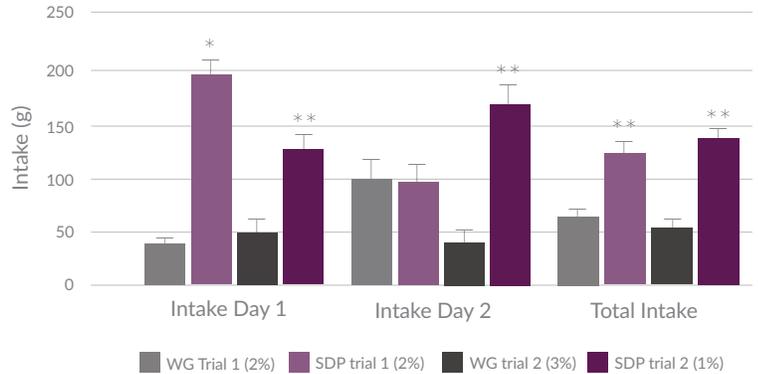
SDP can effectively enhance the chunky texture while maintaining the cohesion of the different ingredients of the recipe. From the spray drying process of SDP, we obtain a very fine powder that preserves all of the liquid plasma's functional properties such as the capacity of producing a thermoplastic gel when it is diluted in water and submitted to high temperature or extreme pH, or its high water retention and emulsifying capacities to cite some of the physical properties of plasma protein. Due to these technological properties, SDP is commonly used in chunks and pouch-type products as well as cat food. The use of SDP not only contributes effectively to enhance the texture of the chunk, but also to maintain a high degree of cohesion between the different recipe ingredients.

COMPANION



Figure 1. Daily and total intake in cats for each diet used in the two palatability studies

Statistics were performed by trials (iso-product [1] or iso-cost [2]) using Student's t-test



These differences in intake were also observed for the first choice of each diet, as shown in Table 1. Both studies conclude there is a clear preference for the diets containing SDP.

SPRAY DRIED PLASMA IS AN EXCELLENT PALATANT FOR DOGS AND CATS



CATS PREFER THE RECIPE CONTAINING SDP

We conducted different palatability studies with cats. The first study compared SDP versus Wheat Gluten (WG) included at 20 g/kg (iso-product inclusion) in canned petfood recipe. In the second study, SDP was included at a similar cost as the inclusion of WG at 30 g/kg in the recipe (10 g/kg inclusion for SDP). The ingredients and processing conditions were similar for all of the products obtained.

In the two recipes tested, there was a clear preference in palatability for the formula containing plasma (Figure 1).

In both trials, there was a higher intake over the entire test period ($P < 0.001$) and, in the case of the iso-cost study, this difference was also observed on each day. These results show that the taste of SDP is appreciated by cats. The cats are able to differentiate and positively select the inclusion of SDP in the formula, even when SDP is included at low rates (about 10 g/kg).

Table 1: First choice for each diet in the two palatability studies performed in cats

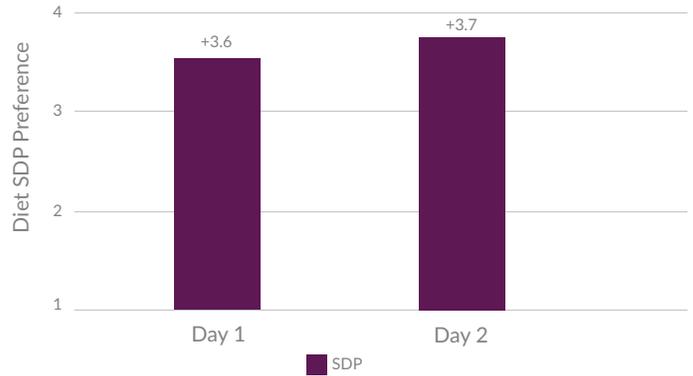
First Choice	Day 1, %	Day 2, %	Total, %
Iso-product formula WG-1 (20g/kg) SDP-1	10 90 ^a	44 66	21 79 ^a
Iso-cost formula WG-2 (30g/kg) SDP-2 (10g/kg)	25 75 ^a	20 80 ^a	22 78 ^a



DOGS EXPERIENCED A GREATER ATTRACTION FOR KIBBLES WITH SDP

We fed 20 beagles for two days in a preference test with standard kibbles treated with control digest containing 5% beef fat and 1% flavor or a treatment containing the same digest with the addition of 2% topical application of SDP. As can be observed in Figure 2, the diet containing SDP had an overall preference of 3.6:1 respect to control diet ($P < 0.0001$) and the consumption ratio was 78:22. The preference for the SDP was similar for both days. SDP application provided the dogs a greater attraction to the kibbles containing plasma.

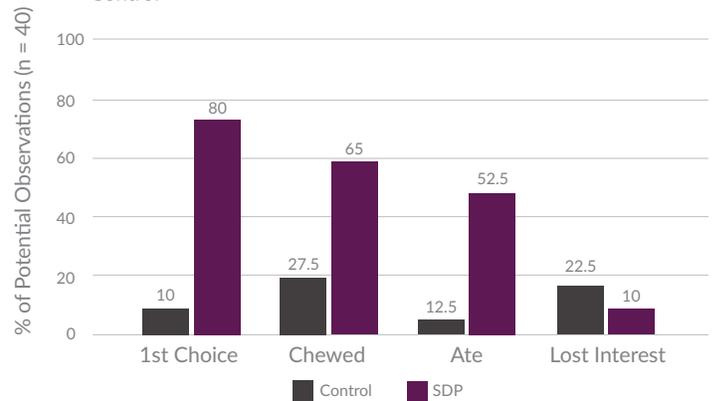
Figure 2: Preference of SDP diet VS Negative Control



SDP IMPROVES PALATABILITY OF TREATS, INCREASING CONSUMPTION

In another study, commercially available dog treats were soaked in water containing 0 or 20% SDP for 5 minutes before the treats were air dried. 20 beagle dogs were offered two treats (Control and SDP soaked treats) for a 2-day palatability. As shown in Figure 3, SDP coated treats were favored by more dogs than control treats in all categories studied. The palatability and consumption of treats were increased with the addition of SDP.

Figure 3: Treats soaked in water containing SDP VS Negative Control



BOTTOM LINE

CHUNK TEXTURE



PALATABILITY



DAILY INTAKE

