FELINE HYDRA CARE™

Complementary pet food for adult cats formulated to increase water intake and urine dilution.

RECOMMENDED FOR & NOT RECOMMENDED FOR

- ✓ Cats who could benefit from additional water intake
- ✗ Not suitable for pregnancy, lactation and growth
- ✗ Cats with specific food allergies

The addition of PURINA® PRO PLAN® Hydra Care™ to the cat's diet can help increase water intake. These effects may offer benefits to cats in need of greater water consumption for their overall health.

85 g

KEY BENEFITS

- INCREASED LIQUID INTAKE — **Shown to increase total water intake and promote hydration***
- URINE DILUTION — **Help to increase urine dilution**
- GREAT TASTE — **Great taste**

ADDITIONAL BENEFITS & CHARACTERISTICS

Created to help cats consume on average 28% more liquid every day than water alone*
and so help increase urine dilution

Specifically formulated to help increase water intake and urine dilution

Shown to help decrease urine specific gravity and osmolality*

Engages cats to happily lick it up due to its great taste

Offers a tasty, soft textured jelly
which is served on its own, as an extra third bowl

* Compared to cats consuming only water in addition to dry feeding. Cats must consume at least 25 ml/kg of bodyweight daily for benefit.

COMPOSITION

Whey protein isolate powder, glycerol, digest, various sugars, potassium chloride.

KEY NUTRIENT VALUES*	
Moisture	94.5%
Protein	3.2%
Fat	0.22%
Crude ash	0.16%
Crude fibre	0.018%
Calcium	0.003%
Magnesium	0.0013%
Phosphorus	0.009%
Chloride	0.034%
Sodium	0.017%
Metabolisable energy (ME)[1]	22kcal/100g

* Typical analysis in the final product as fed.
[1] Calculated following NRC 2006 equations.

FEEDING GUIDELINES

PURINA® PRO PLAN® Hydra Care™ is a complementary pet food and offers a tasty, soft textured jelly which is served on its own, as an extra third bowl.

The formula will engage cats to happily lick it up due to its great taste, helping to increase their total water intake and decrease urine specific gravity and osmolality.

- Shake well before feeding
- Feed 1 pouch per each 2 kg of body weight per day
- Low in calories: only 19 kcal per pouch
- Serve at room temperature
- Clean, fresh drinking water should always be available

Multiple studies have shown the benefits of providing cats with nutrient-enriched water. The products used in the following studies[1,2,3,4] have similar properties to PURINA® PRO PLAN® Hydra Care™.

INTRODUCTION

- While healthy cats are able to self-regulate the total water they require through drinking, a difference in the daily water-to-calorie intake ratio is observed depending on the type of food ingested. Cats generally drink more water if fed a dry food compared to a wet food, but the total volume of moisture ingested is less than if they are fed a 100% wet diet. These differences in water consumption may be relevant in cats suffering from conditions including Lower Urinary Tract Disease (FLUTD) who would benefit from an increased total water intake and urine output[2].
- Different studies have evaluated the effects of nutrient-enriched water (NW) intake on measures of hydration. For example, cats undergoing a routine dental cleaning procedure which required anaesthesia showed a significant increase (0.9%) of total body water (TBW) prior to intervention when they were offered NW compared to cats drinking only tap water (TW)[3]. After the procedure, NW cats appeared to be equally hydrated compared to cats administered intravenous (IV) fluids during the anaesthesia or better hydrated than those that did not receive IV fluids[3].
- Three additional studies[1,2,4] have evaluated the effects of drinking NW on water intake and indices of hydration in healthy domestic cats fed with a dry kibble diet ad libitum.

METHODOLOGY

- A key study was carried out by Zanghi BM, *et al.* (2018)[1]. It consisted of monitoring 18 healthy adult domestic shorthair cats fed ad libitum dry diets for 56 days. During a one-week baseline period, all cats were offered TW as their only water source. Following the baseline week, 9 cats were offered only NW for 10 days and afterwards, were offered both TW and NW in separate bowls and alternating locations, until the end of the study. The remaining 9 cats were offered only TW during the whole length of the study (Figure 1). Blood and urine samples were collected, and quantitative magnetic resonance imaging was performed to assess total body water, lean body mass and fat mass at intervals throughout the study.
- Similar methodology was applied in an internal Nestlé study[4] that consisted of monitoring 22 healthy adult domestic cats fed ad libitum dry diet for 27 days. Urine and faecal samples were collected during the study.
- A further study conducted by Wils-Plotz *et al.* (2019)[2] analysed two similar NW differing only in the gum content, and thus liquid viscosity.

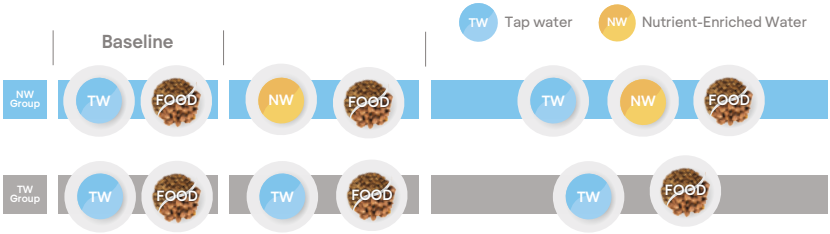

Figure 1. Graphical representation of the studies' methodology.

RESULTS

- In the first study[1], cats offered both TW and NW preferentially drank NW, and the higher liquid intake maintained a more dilute urine over the 2 month study (Figure 2). There was a change in urine parameters, reflecting an increased hydration status, including decreased urine specific gravity (33% lower); decreased urine osmolality (30% lower); light urine colour; and lower urinary concentration of phosphate, creatinine and urea nitrogen relative to baseline.

MEAN WEEKLY LIQUID INTAKE (VS. BASELINE). TAP (TW) VS NUTRIENT ENRICHED WATER (NW).

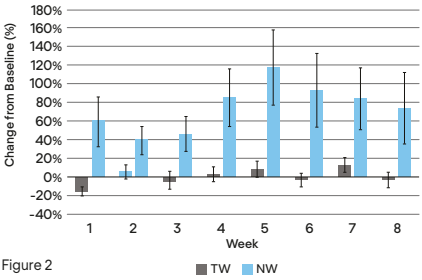

Figure 2

- The results from the Nestlé internal report[4] confirmed the previous results, increasing the total water intake by 28% in ml/day and decreasing the urinary osmolality by 12.5%.
- Results from the Wils-Plotz *et al.* (2019) study[2], concluded that both types of NW, regardless of gum content, increased total daily liquid intake similarly (35.1 and 33.0 g/kg BW/d, respectively) compared with cats drinking only TW (25.8 g/kg BW/d), and significantly improved urine measures of hydration.

OUTCOMES

The consumption of nutrient-enriched water significantly altered urine parameters, reflecting an increased hydration status relative to the baseline:

- Decreased urine specific gravity[1,2,4]
- Decreased urine osmolality (30% and 12.5% lower)[1,4]
- Lighter urine colour[1]
- Increased daily liquid consumption[1,2,4]

Cats drinking nutrient-enriched water:

- Had a higher daily urine volume compared to TW cats[1,2] (up to 48% higher)[1]
- Glomerular filtration rate did not differ significantly between the groups[1]
- The cats' total body water, lean body mass and fat mass remained stable[1]

CONCLUSIONS OF THE CITED RESEARCH[1,2,3,4]

The studies suggests cats that drank a nutrient-enriched water had a higher daily water intake, increased urinary output, and improved measures of hydration compared to cats offered only tap water.

1. Zanghi BM, *et al.* (2018) Effects of a nutrient-enriched water on water intake and indices of hydration in healthy domestic cats fed a dry kibble diet. From Nestlé PURINA® Research. *Am J Vet Res.* **79**: 733-44.
2. Wils-Plotz E, *et al.* (2019) Nutrient-enriched water supplements nutritionally support hydration in the domestic cat. From Nestlé PURINA® Research. 2019 ACVIM Forum Research Abstract Program.
3. Zanghi BM, *et al.* (2019) Hydration measures in cats during brief anesthesia: intravenous fluids versus pre-procedure water supplement ingestion. From Nestlé PURINA® Research. 2019 ACVIM Forum Research Abstract Program.
4. Colliard *et al.* (2019) Nestlé Internal Report.