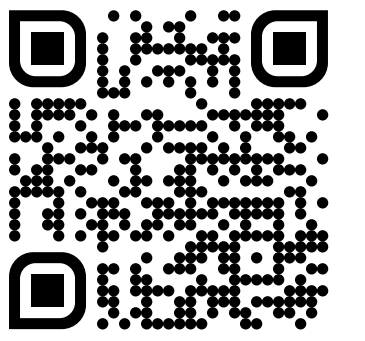


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Abstract Hummus is a vegetable protein-lipid dish with a high satiety index, prepared from tahini and chickpeas (Fig.1, Fig.2.). Hummus is popular in most Arab countries and in Israel, and is gaining more and more followers in Western countries as well. The fundamental terms used to comment on the halal status

of a product are halal (permitted), haram (forbidden), and meshbuh (questionable). Aim of the paper is to provide a brief nutritional overview of hummus, as well as an outline of the requirements for the commercial production of halal hummus.



Fig.1. The main ingredients of hummus are chickpeas and tahini

This paper compared the nutritional composition and ingredient list of six commercially available hummus products. A haram analysis was conducted based on the halal norm HRN BAS 1049:2010.

Key words: hummus, halal status, halal production, HrCCP, health benefits

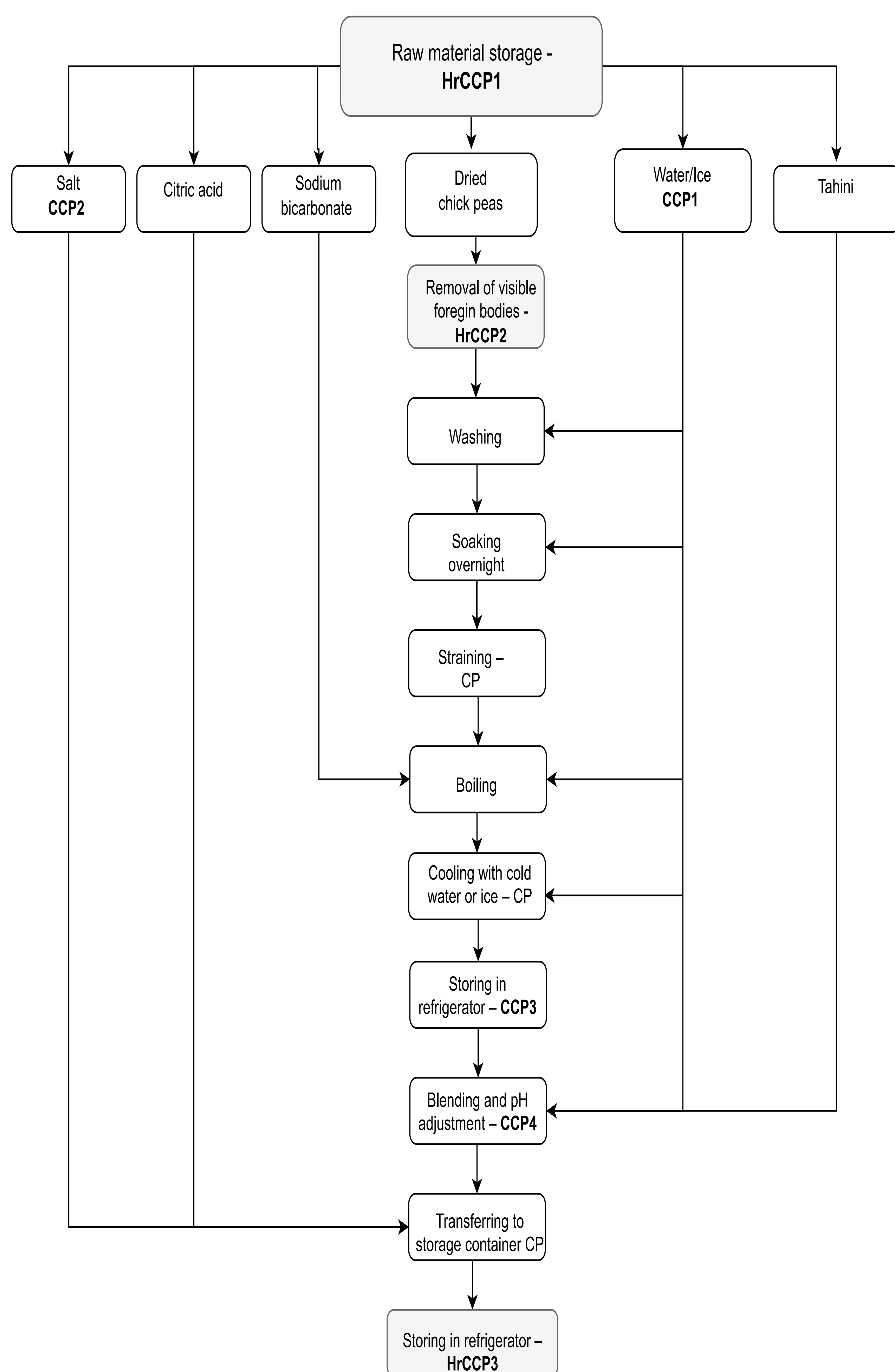


Fig. 3. Hummus production process with HrCCP points

Table 1. Comparison of nutritional characteristics of different commercially available hummus (*expressed per 100g of product)

Product brand	Calories (kcal)*	Fat (g)*	Saturated Fat (g)*	Carbo-hydrates (g)*	Sugars (g)*	Fiber (g)*	Protein (g)*	Salt (g)*	Halal certified
Sana	295	24	3,5	13	0,2		6	0,5	Yes
dmBio	263	23	2,8	9,2	0,6	3	3,9	1,1	No
Nutrigold	258	20	1,5	10	0,5	7,5	6,5	1,1	No
Chef Select	272	20,8	1,9	12	2,2	5,2	6,7	1,63	No
Spar veggie	293	23	2,8	11	0,9	4	8,6	1,3	No

The caloric value of hummus ranges from 231 to 295 kcal, while the total fat content in these products ranges from 19 to 24 g, saturated fat from 1.5 to 3 g, carbohydrates from 6.7 to 11 g, sugars from 0.2 to 2.2 g, fiber from 3 to 7.5 g, protein from 3.9 to 8.6 g, and salt from 0.5 to 1.63 g (Table 1).

Table 2. Comparison of hummus ingredients of different commercially available hummus

PRODUCT BRAND	INGREDIENTS
Ribella	boiled chickpeas 76%, rapeseed oil, SESAME pasta, spices and spice extracts, table salt, acidity regulator (citric acid, sodium hydrogen carbonate), sugar 0.45%, preservative (potassium sorbate)
Sana	boiled chickpeas 48%, SOY oil, SESAME pasta 16%, water, corn starch, salt,garlic, acidity regulators (citric acid, octenoic acid), preservative (potassium sorbate)
dmBio	Water, 34% chickpeas*, sunflower oil*, 3% garlic*, olive oil* (extra virgin), 2% sesame*, sea salt, cumin*, lemon juice concentrate*, cornstarch*, coriander*, paprika*, *from organic farming
Nutrigold	Cooked chickpeas* 48%, sunflower oil*, water, tahini* 2% (sesame pasta), extra virgin olive oil*, lemon juice* (concentrate), salt, garlic*, white pepper*, cumin*,*from certified organic cultivation
Chef Select	55% chickpeas, rapeseed oil, water, 12% sesame, alcohol vinegar, sugar, table salt, modified starch, starch, lemon juice concentrate, garlic, spices, chili, herbs, acidity regulator (sodium acetates), thickener (guar gum))
Spar veggie	53% chickpeas, water, sesame, rapeseed oil, olive oil, salt, lemon juice powder, acidity regulator: citric acid, lactic acid 3B, preservative: potassium sorbate, maltodextrin, natural lemon flavor, garlic, spice

All six samples of hummus that were analyzed were found to contain two key ingredients: chickpeas and tahini. These two ingredients are integral to both traditional and industrial methods of preparing hummus, and are widely recognized for their flavor and nutritional benefits (Table 2).

Table 3. Haram analysis according to HRN BAS 1049:2010

HAZARD	NORME REQUIREMENT	MONITORING		CORRECTIVE ACTION
		TEST	FREQUENCY	
Raw material is not halal	5.9, 5.10, 5.11, 5.12, 5.14, 6	Checking of Halal certificate for each raw material, laboratory analyses on haram presence (Pork protein, alcohol, GMO), Visual Examination- storage in a separate, special storage area with a visible halal label	ongoing basis	in case of haram, a procedure non-conformity management is
Physical and Biological: Foreign matter; presence of haram insects	6,7	Visual Examination	with every production	in case of haram, a procedure non-conformity management is
the halal product was mistakenly replaced with a halal product	5.10, 5.14	Visual Examination-storage in a separate, special storage area with a visible halal label	ongoing basis	in case of haram, a procedure non-conformity

Based on HRN BAS 1049:2010, humus is considered low risk for haram since its ingredients are mostly of plant origin, although some additives used in commercial production may be synthetic. Haram analysis is conducted to identify haram critical control points (HrCCP) and establish preventive measures to avoid haram contamination of the final product (Fig.3, Table 3).

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