

APPLICATION OF FOODEX2 AND LINGUAL™ CODING SYSTEMS: A CASE STUDY OF OSSOBUCCO ALLA MILANESE

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I. INTRODUCTION

The design and construction of food database requires the exact identification of foods throughout an appropriate food nomenclature and a precision description [1-3]. In the perspective to further cooperation between different countries, this data should be presented in a standardized format in order to facilitate data's comparison. Harmonization of terms used for describing it is a way to translate data from one database into an easily accessible form by another database [4,5]. The necessity of a consistent approach to classifying information within food composition database led to development of some tools, LanguaL™ and FoodEx2 are mostly widely used among them. The research now needs to study the nutritional characteristics of foods in the form in which they are normally consumed. Cooked foods and traditional recipes, especially in countries with an important culinary culture, are in fact used very often and there is still little information regarding their nutritional composition [6,7]. Some recipes and typical Italian products are based on meats. Meat and meat products are an important source of nutrients – proteins, iron, and vitamins, among others – to the human diet. Consumption of meat and derivatives has steadily and significantly increased over the last 50 years [8]. Furthermore, for a safe consumption, meats and meat products almost always need to be cooked or undergone different processing and conservation methods. The aim of this study is to apply description and coding systems (LanguaL™, FoodEx2) for a traditional meat-based recipe as a case study.

II. MATERIALS AND METHODS

The coding procedure was carried out by a qualified compiler who constantly follows the LanguaL™ and FoodEx2 system updates, taking part in training courses organized by system developers. The same compiler was for both coding systems. A double check was carried out by another qualified compiler. The last versions of LanguaL™ [9, 10] and FoodEx2 [11-16] systems were used. A traditional Italian recipe was chosen as case study. The recipe chosen was “*Ossobuco alla Milanese*”, it consists of fore shank based second course. The dish was experimentally prepared and cooked in CREA-Research Centre for Food and Nutrition laboratories and then nutritional analyses were taken as previously reported [17].

III. RESULTS AND DISCUSSION

“*Ossobuco alla Milanese*” is one of the signature dishes from Milan, Italy. As previously reported [17], the ingredients are: fore shank; flour; butter; extra-virgin olive oil; onion, celery and carrot -finely chopped-; salt; broth; white wine. The preparation starts with flouring the meat and then brown it for 15 min with onion, carrot, and celery. Add the wine, bring to boil and reduce. Add the broth and cook over low heat for 30 min. [17].

This case study can be viewed as guideline for coding by LanguaL™ and FoodEx2, Revision 2 for meat-based dishes.

Table 1. LanguaL™ and FoodEx2 codes and codes description describing *Ossobuco alla Milanese*.

| Composite dish | LanguaL™ Code and code description | Remark |
|------------------------|---|---|
| Ossobuco alla milanese | 19 MANUFACTURED FOOD (MULTI-INGREDIENT) OF ANIMAL ORIGIN [A0667]; 32 MISCELLANEOUS FOODS (EFG) [A0722]; 12 MISCELLANEOUS FOODS (EUROCODE2) [A0735]; MEAT DISH (EUROFIR) [A0799]; 38480 - MEAT BASED DISHES (EFSA FOODX2) [A03VV]; 10005767 - BEEF - PREPARED/PROCESSED (GS1 GPC) [A1619]; CATTLE [B1161]; SKELETAL MEAT PART, WITH BONE, WITHOUT SKIN [C0266]; SOLID [E0151]; FULLY HEAT-TREATED [F0014]; BRAISED [G0019]; SAUTEED [G0027]; ONION ADDED [H0349]; VEGETABLE ADDED [H0212]; BUTTER ADDED [H0271]; OLIVE OIL ADDED [H0341]; ALCOHOL ADDED [H0332]; GRAIN ADDED [H0152]; SALT ADDED [H0367]; FLAVORING OR TASTE INGREDIENT ADDED [H0117]; HUMAN CONSUMER, NO AGE SPECIFICATION [P0024]; ITALY [R0263]; HOME PREPARED [Z0109]. | [H0212] is referred to carrot and celery added. [H0341] is referred to extra-virgin olive oil; [H0332] is referred to white wine. [H0117] is referred to stock cube. |
| | FoodEx2 Code and code description A03VV#F28.A07GS\$F28.A07GJ\$F04.A01QX\$F04.A03MV\$F04.A00HC\$F04.A00QH\$F04.A00XA\$F04.A039C\$F04.A036Q\$F04.A043J | |
| | Re-coded: Meat based dishes, PROCESS = Pan frying / shallow frying, PROCESS=Simmering, INGREDIENT = Cow, ox or bull fresh meat, INGREDIENT = Wine, white, INGREDIENT = Onions, INGREDIENT = Carrots, INGREDIENT = Celery leaves, INGREDIENT = Butter, INGREDIENT = Olive oil, virgin or extra-virgin, INGREDIENT = Stock cubes or granulate, vegetables. | |

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