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Physical-Chemical Characteristics of The Downy Peach Grown in the Colonia Tovar, Aragua State, Venezuela

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***Abstract*—Currently companies processing large amounts of fruits discarded feedstock because direct their efforts toward greater use of bulk fruit or fruit pulp for carrying food products with higher added value. The challenge today is the use of these wastes and brings new ideas to generate aggregates or products which may potentiate uses associated with industrial level. This research is to characterize the outer downy peach (Prunus persica L.), to know its composition and potential in the industrial use, a simple random external downy removed peach (mechanical peeling) sampling was performed, harvest produced in Colonia Tovar, State Aragua, during the months of May to August 2013. Its led the Laboratory of food Technology Center Technology (CITEC), were analyzed by official methods of the Venezuelan Industrial Standards Committee (COVENIN), methods CITEC and Association of Official Analysis Chemists (AOAC) . The author Concluded that the downy peach has a protein percentage of 4.5%, ash 1% Fat 0.9% Ash 1.4%, ranking in Division B and A1 by its insolubility in water but soluble in organic solvents. Abstract—This electronic document is a "live" template and already defines the components of your paper [title, text, heads, etc.] in its style sheet.**

Keywords—peach, outer downy, organic matter utilization, prunus persica L.

I. INTRODUCTION

The peach (Prunus persica L.), called Peach in Spain, belongs to the family Rosaceae, deciduous fruit tree which originated in China, was brought to the West by the Romans who took it as originating in Persia and called apple cottony referring to the fruit skin. Your skin is characterized by being very thin, soft and fuzzy, which is almost fluff. Because the peach (Prunus persica L.) has been already discussed above, having an extensive bibliography. [7,15,16]. In this study the outer down peach examined to look for an application and use it in some way, because after removing the fruit farmers discard it. The use of this waste represents a challenge to bring new ideas in the development of products that can be used industrially. The sample used was grown, harvested and brought from the Colonia Tovar, Tovar municipality Aragua Venezuela (Figure 1) to be analyzed at the Laboratory of Technology of Food , Center of research for Technology (CITEC), Experimental National University "Francisco de Miranda." (UNEFM).

Figure 1 peaches produced in the Colonia Tovar, Venezuela.

Characterization Because no references from previous studies to the outer downy peach (Prunus persica L.) Figure 2 were found; physicochemical thereof characteristics were determined by analysis methods established in the Catalogue of the Venezuelan official regulations of the Venezuelan Industrial Standards Committee [5], using chemical and instrumental experimental procedures in Technology Laboratory food [1,6], in order to provide possible uses of the remaining harvest so far in Venezuela is considered only a waste, considering the following objectives characterization physicochemical outer downy peach (Prunus persica L.) grown in Colonia Tovar Venezuela.

Figure 2. A machine that removes the outer hair peach.

The mystical considerations received the peach (Prunus persica L.) in antiquity as collections [7], the peach is native to China, where the references of its cultivation dating back 3,000 years. The Persian word in Latin, means Persian. It is said that Momotaro, one

of the most noble and semi-historical heroes of Japan, was born inside a huge peach that was floating downstream in a river. Momotaro or "peach boy" fought the devil Ony and faced many adventures. In China, it was said that the peach was consumed by the immortals due to its mystic virtue of conferring longevity to all who eat it. Yu Huang or the Jade Emperor, had a wife named Xi Wangmu, also known as the Queen Mother of the West, which assured eternal life immortal feeding them with peaches of immortality. It is said that immortals residing in the palace of Xi Wangmu celebrated a feast called eccentric Pantao Huio "The festival of peaches". This grand celebration took place six thousand years since the peach threw leaves once every three thousand years and its harvest took three thousand mature. Ivory statues depicting Xi servants Wangmu often hold three peaches. The peach has an important role in Chinese tradition and is the symbol of long life. An example is given in the history of the collection of peach Daoling Zhang, who was the founder of religious Taoism. Zhang Guo Major, one of the eight Chinese immortals, is often depicted carrying a Peach of Immortality [7]. Because of its delicious flavor and delicate texture, the word "peach" was used in ancient China to refer to a "young bride" and has remained in many cultures as a way to define a good-looking young women. The peaches were probably brought to Persia through trade routes through the mountains, becoming known there as Persian fruit, hence the name persica, peach, peach. These terms led to the misconception that peaches originated in Persia. Around 330 BC, the peach arrived in Greece, and during the Middle Ages, its cultivation spread throughout Europe. In the nineteenth century it is found that the peach and appears as expanding crop. In the early twentieth century [15], begin to select genotypes of peach from populations from seed and are set by grafting. In ancient times, the peach was brought to India, West Asia and eventually the Mediterranean. From all these places has been taken to other parts of the world, including America and Australia. Despite all introductions, geographic range where the peach has an optimal production is not too broad; because this plant does not tolerate extreme cold of the higher latitudes; nor the constant heat of most tropical regions. In the latter, its cultivation is limited to the mountains, where there is a cool climate, suitable for development [7,15]. La Colonia Tovar located in the central region of Venezuela, is one of the biggest production of the peach crop in the country. El Durazno belongs to the Plant Kingdom. Antofitas Division. Flowering Plant Branch. Class Dicotiledóneas. Order Rosales. Rosacea family. Prune subfamily ideas. Prunus genus. Amigdalus sub genere. Species Persica [2]. Crop characteristics according revisions [14], the peach tree is of medium size (3-5 meters high). The length of its branches reaches about 15 square meters. Its crown tends to be round. It's a bit long-lived tree so that it will reach its maximum yields between 15-20 years as managing received. Its root is pivotal when it comes from plants grown from seed; although not very deep. It vegetative branches, mixed branches, branches and bouquets chifonas May; depending on the type of wood yolks and / or flower at their disposal. Leaves: They are lanceolate, alternate, slightly serrated. The blade is slightly undulating green of varying intensity depending on the level of fertilization and moisture that has the tree. The flowers are hermaphrodite, complete. In the peach, each flower bud is capable of emitting a single flower and once; and each flower is able to "lock" one fruit and one time. It has 5 petals, five sepals and stamens in multiple of 5 and may be 25 or 30. The chalice is gamosépalo, deciduous. The ovary is unicarpelar. For the size and shape of the peach blossom is very feasible to emasculations and crosses. The fruit is a drupe, pericarp is usually pubescent, although some such as nectarine glabrous. The mesocarp is pulpy, with good content in juice and sugar; can be separated from the bone or firmly attached. The endocarp or bone is very hard, and staying within an almond containing two cotyledons. In its adaptation requires cold suspension of rest, accumulation of degrees of heat to fruit maturity. Tolerance and / or resistance to pests and disease organisms. In the peach crop thrives in a rather restricted area because it needs winter cold conditions (cold requirements vary between each of the varieties) that do not meet the subtropics and at the same time, it is not resistant to frost and summer high temperatures required to mature the crop. The major producing regions peaches are in the northern hemisphere: United Kingdom, California, South Carolina, Colorado, Georgia and neighboring regions of Canada, Venezuela, Puerto Rico; the countries of the Mediterranean basin, such as Spain, where outstanding quality native of Murcia, Teruel and peach Cieza; peach with denomination of origin (Peach Calanda) in some areas of China; in the southern hemisphere: Argentina, Chile, Colombia, Uruguay, Peru, South Africa and New Zealand. Most peach trees sold are grafted onto rootstock varieties. The exhibition of this kind should be in full sun and well ventilated. This allows cold air to circulate during the cold nights and keep the area cool in summer. The best time for sowing is early winter; thus the roots have time to settle to feed emerging buds in spring. They must provide a constant supply of water, which will increase shortly before harvest time. Fruits with the best flavor are achieved when trees are watered throughout the season. Drip irrigation is the ideal way. The peach has high nutrient needs, and requires more nitrogen than most fruit. You can apply a fertilizer high in nitrogen, phosphorus and potassium regularly and an extra supply of poultry manure in autumn, after harvest [15].

Worldwide peach (Prunus persica L.) is one of the main temperate fruit crops worldwide.

With a total production of 9.6 million tons; continentally distributed as seen in Table 1

Table 1. World Production of Durazno, in thousands of tons.

Continent	Production
Europe	4500
América:	1602
North	362
South	412
Oceanía	665
Asia	2100
Total	9642

Source: [3]. Peaches and Nectarines are included.

From this information consulted on [3], the greater importance of European Mediterranean countries follows: Italy with 110,000 hectares (Ha). and 1.64 million tonnes (Ton). Spain with 77700 ha. And 869000 Ton. France 36900 Ha. And 447000 Ton. Greece 37000 Ha. Portugal with production of 96,000 tons. With respect to North America, the largest area and production corresponds to the United States, with a volume of 1.35 million Ton; many of which correspond to California. In South America, the leading countries are Chile and Argentina. In Asia's largest producer is China, although still today it is difficult to know their data; but certainly to join the World Trade Organization (WTO), the Chinese will flood the world market with its peaches. In Oceania Australia and New Zealand stand [10].

In Venezuela the Yellow Peach has a high interest rate for producers and consumers for its pleasant acid-sweet taste, nutritional value and performance in pulp, with its attributed to these features commercial value and useful life. The peach production in the tropics has been little studied, given the growing feature of subtropical and temperate latitudes.

However, there are some agro-ecological environments in Venezuela, which has settled peach production, taking advantage of some climatic conditions that favor the crop. One is the area of the Coastal mountains, specifically in the municipalities of Aragua State Tovar and Guaicaipuro Miranda state, in Colonia Tovar and the town of El Jarillo; located between 1,200 and 1,900 meters, 10th and 10th 20' 28' north latitude and between 67o 20 'and 67o 10' west longitude from Greenwich. The rainfall varies between 800 and 1200 mm / year, is distributed in six months are July the wettest month, annual average temperatures range between 18 and 24oC. There are no fewer than 23 agricultural settlements with peach cultivation as an important source of income in an area of approximately 1400 hectares, for the Colonia Tovar and about 410 hectares for the Jarillo, where approximately 500 producers, mostly from migrant German cultivate a total population of approximately 305,200 plants [6,11].

Growth Phases of the fruit. According [16], like other fruits of bone or stone fruit, peaches have a growth pattern described as two successive sigmoid curves. This type of pattern is characterized by two growth spurts separated by an intermediate phase in which the growth of the fruit is scarce. During the rapid growth of first stage (stage I or stage of exponential growth) and the ovary grow exponentially content unless the embryo and endosperm, primarily as a result of cell division. This, immediately after the flowering period is critical for the final fruit size. Any environmental stress (heat, cold, water or nutrient deficiencies) tends to shorten this phase and affect the final fruit size. The second phase (Phase II), which resembles a plateau, is characterized by the growth of the embryo and endosperm, the esclerificación (hardening) of the endocarp, and little growth in the ovary wall. At this stage, the fruit slowly increases in size, but the embryo grows rapidly into the pit on pathways esclerificación. In the third stage (stage III) mesocarp rapid growth, resulting in a rapid increase in the size and weight of the fruit takes place. It is followed by a fourth stage (stage IV) in which fruit ripening [16] occurs

The peach, peach and albérchigo is excellent and nutritious, according to the [8,9] collection , usually taken in natural form, as dessert or juice and soda; suspended in wine, perfumed and gives a rich flavor. The leaves in poultices act against skin rashes; decoction cure skin diseases. The seeds have calming effects. Flowers infusion relieve intestinal ulcers and other diseases of this organ. Against eczema, hives and rheumatism, you have to eat often said fruit fresh or juices. Against constipation, diseases of the stomach and kidneys, prepare 20 grams of leaves and flowers infused in a pint of water, take this preparation of 3-4 cups daily. The fruit is an excellent diuretic, especially when taken on an empty stomach. It also regulates any stomach or intestinal deficiency. A decoction of the leaves is recommended for hot baths in paralysis and tullimiento. Flowers very appreciated to gently flush the bilious humor, to purify the blood and liver disorders is preserved. The water sinks peach buds apply for herpes and juice for ringworm, and inwardly to earthworms. Leaves powders, with some fat, are also used to treat ringworm. Peach leaf poultice applied in the belly of children as an anthelmintic and in other cases to cure cancerous ulcers, herpes swollen and painful. The dried powdered leaves the prescribed against the outer cancer. The seeds crushed and mixed with egg white are good for cutting the blood from the wounds, especially for individuals with hemophilia, it is difficult to cut otherwise [7,8].

Methods for determination of quality parameters peach purposes of industrialization.

Method for Weight Loss With Wood (humidity) Is based on the weight loss of the sample under specific conditions. The value obtained depends on the type of stove that will be used and the temperature and drying time; the temperature is not the same in different parts of the stove, variations can be up more than 3º C in the old types, modern stoves are equipped with effective systems of thermostats and temperature of different parts of the same do not vary more than 1 °

C. Comparison, must be aware that: 'Sometimes it is difficult to remove all the moisture drying.

-A Certain temperature food is susceptible to decomposition.

-The Foods rich in reducing sugars should therefore be dried carefully, preferably in stove emptied at 60ºC.

Ashes.

Ash in food are constituted by the inorganic residue remaining after the organic matter is burned. The ash obtained do not necessarily have the same composition as the mineral matter present in the original food, may exist as volatilization losses or some interaction between the constituents. The ashes represent the mineral content of the food; generally involve the ash less than 5% of the dry matter of the food. Minerals, along with water, are the only food components that can not be oxidized in the body to produce energy; on the contrary, the organic material comprising the nutrients (proteins, carbohydrates and lipids) that can be burned (oxidized) in the body for energy, and is calculated as the difference between the dry matter content of the food and the ash content . The ashes are determined as the residue from burning in an oven or muffle the organic components at 550 ° C for 5 h. Sometimes it is interesting to determine ash insoluble in hydrochloric acid, which claim to represent the content of indigestible food minerals [9]. As already described; ash is the inorganic residue left after completely remove existing organic compounds in the sample, but keep in mind that he did not find the same elements in the sample intact, as there volatilization losses and conversion and interaction between the chemical constituents. Despite these limitations, the system is useful to specify the quality of some foods whose total ash content, or its derivative determinations that are water-soluble ash, alkalinity of ash and acid insoluble ash, is well defined. Provided, in part, identification, or for classifying the food under consideration according to their ash content.

Determining importance of ashes.

Determination of ash content may be important for several reasons: they are a part of the proximal analysis for nutritional assessment. Ash is the first step in the preparation of a food sample for specific elemental analysis. Determination of ash content expressed as a percentage (%), serves for the purity of some ingredients used in the preparation of foods such as sugar, pectin, starch and gelatin [9]

The ash content is used as an index of quality in some foods such as jams and jellies. In these products the ash content indicates the content of fruits therein, therefore it is considered as an index of adulteration or contamination fraud. Inorganic ash containing components, many of which are of nutritional interest as is the case of calcium, phosphorus, etc. When a high ash content in any foodstuff the presence of an inorganic dopant is suggested.

The most common method is to determine ash calcination in muffle furnace at temperatures between 500 and 600 degrees Celsius (° C). . In fruits and vegetables is between 2-12%. The mineral elements in foods are organic and inorganic combinations. Inorganic salts such as: phosphate, carbonate, chloride, sulfate, sodium nitrite, potassium, calcium, are common. Malic, oxalic, acetic, peptic, etc. Moreover certain mineral elements may be organic molecules forming complexes: these organic acid salts may also be present. Sometimes in the determination of ash is convenient mixing with sand [8].

Extract fat or Ethereal.

Lipids are a group of substances that in general are soluble in organic solvents such as chloroform or ether solvents. Fat, together with carbohydrates and proteins constitute the principal structural components of food. An important part to consider is the fact that its characteristic is unique solubility in lipids. Lipid definition describes a large group of substances that has the same characteristics and structural composition like. Although some lipids such as triacylglycerols, are very hydrophobic, other lipids, such as di- and monoacylglycerols have both hydrophobic and hydrophilic parts in their molecules, which makes them relatively solvents.

Solubility:

The solubility of compounds of the outer hair peach, an important feature of the structure of organic compounds it contains, which will depend in use aggregates or mixtures of industrial interest.

Intermolecular forces determine the solubility of organic compounds. The general rule is that like dissolves like. Polar substances are dissolved in polar solvents and nonpolar substances dissolve in nonpolar solvents. Dissolving an organic compound in a solvent, is a process in which intermolecular forces existing in the pure substance, are replaced by forces acting between solvent and solute molecules. Therefore, the molecule-molecule forces in the solute-solvent and forces molecule in solution, is in favor of the latter. Some organic compounds are readily soluble in water, but most are not. Most organic compounds are soluble in other organic compounds called organic solvents. The solubility of an organic compound can give valuable information regarding its structural composition. According to the solubility of organic compounds in solvent and the presence of elements other than carbon and hydrogen, these are classified into eight groups [11].

Classification of the solubility of organic compounds [11].

Division S1: soluble in water and soluble in ether or benzene compounds. Bridge formers are those hydrogen atoms N, O and F bound to M, and those

functional groups with O, N or F. Compounds chains exceeding 5 carbon atoms are not soluble in this division.

Division S2: Compounds soluble in water but insoluble in ether or benzene. Polar compounds with strong intermolecular interactions. Division B: insoluble in water but soluble in 1.2N HCL compounds. Compounds containing basic functional groups. A1 division: insoluble in water but soluble in 2.5N NaOH compounds. Compounds containing acidic functional groups with pKa less than 12. Division A2: insoluble compounds in 1.5N sodium bicarbonate. Acids with pKa less than 6 and the acids with a pKa greater than 8 are insoluble. Division M: compounds containing nitrogen or sulfur and are insoluble in water, HCl and NaOH. Halogens may be present as nitrogen and oxygen. Division N: Compounds that are soluble in concentrated sulfuric acid and not belonging to any of the divisions. Do not have nitrogen, and oxygen, the halogens are not common. Division I: Compounds that are insoluble in all solvents used in the classification and contain no nitrogen or sulfur. Hydrocarbons, halogenated hydrocarbon derivatives. pH determination is a measure expressing a degree of acidity or basicity of a solution on a scale that ranges from 0 to 14. The acidity increases as the pH decreases. A solution with a pH less than 7 are said to be acidic, whereas if it is greater than 7 is classified as basic. A solution with pH 7 is neutral. Materials and methods .Physical Analysis - Chemical sample external downy peach (Prunus persica L.) Determination of physicochemical external peach fuzz Figure 3 analysis was performed according to the Rules of the [1] and the Venezuelan Industrial Committee [5]

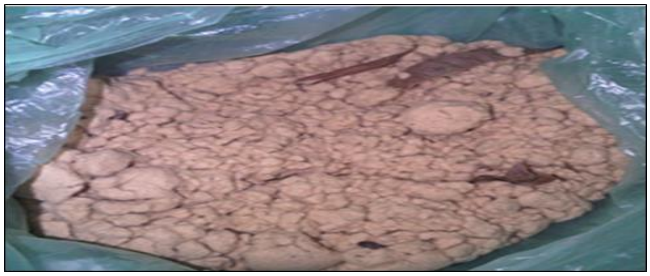

Figure 3. External hair peach (Prunus persica L.) collected in the Colonia Tovar .Venezuela

Method for determination of moisture (AOAC) No. 14,004. [4].

Background: The moisture content determination is an important from the point of view of quality and preservation of food.

Materials: spatulas, sieve diameter of 1mm. Porcelain capsule, dryer, clip capsule.

Equipment: semi analytical balance forced air oven.

Procedure.

1. Turn on the balance and temperature oven at 105 ° c is set.

2. The capsule was weighed previously dried in the oven at 105 ° C for one hour.

3. cooled in a desiccator for 15 minutes.

4. The capsule was weighed and the weight was recorded.

5. placed 2 to 5 grams of the previously ground solid sample.

6. The sample is introduced into the oven at 105 ° C for four hours.

7. The capsule was weighed and the weight loss was reported as moisture.

Formula used. (1)

% Moisture: moist sample weight - dry sample weight x 100% Wet sample weight

Method for determination of ASH (AOAC) No. 31-012. [1].

Principle.

This is a muffle furnace ashing method adopted by [1]. Determination of ash and chemical composition serves to control the product quality in the sense of adulteration.

Materials: graphite pencil, porcelain crucibles, dryer spatula, forceps.

Equipment: semi analytical balance, stove, hot plate, muffle.

procedure:

1.- balance was lit and the temperature adjusted to 105 ° C

2.- porcelain pots labeled them with pencil.

3.- was previously dried capsule of porcelain Weighed in the oven at 105 ° C for one hour.

4.- cooled in desiccator 15min.

5.- He porcelain capsule weighed and the weight recorded.

6.- placed 2 to 5 grams of the sample.

7.- placed on the hot plate until the sample carbonized.

8.-After the carbonized sample was placed in a muffle furnace at 525 ° C for 4 hours to have achieved calcining.

9.-cooled in a desiccator and weighed.

Formula used: (2)

% Ash: weight (capsule + ash) - empty capsule weight x 100% sample size

SOXTEC method for determining fat [1].

Background: Soxtec method is a method of continuous extraction, based on a fresh portion of the solvent is contacted with the material to be extracted for a period of time.

Materials: Thimbles for Soxtec, 50ml capsule, 50mlb beaker, graduated cylinder 50ml, spatula.

Reagent: hexane.

Equipment: semi analytical balance, equipment Soxtec procedure:

1. Weighed 0,25gr of dry sample and placed in the thimble containing cotton in the bottom, then the sample with a cotton capped.

2. the coolant hose to the tap Connect.

3. Open the water supply checking back flow of same.

4. extractor equipment is on and set the temperature to the solvent used.

5. thimbles were carried to Soxtec and placed in the compartment, using handcuffs are in charge of refrigerant.

6. capsules (previously were dried in the oven at 105 ° C for 2 hours and weighed were placed.

7. 40ml of solvent were added and introduced into the team, taking care that are snug, lowering the lever pressure seals.

8. thimbles were lowered by soaking in solvent and time was set at 15min.

9. open valve must be maintained throughout the process.

10. Completed 15min, thimbles climbed and the time was adjusted to 3min. Closing valves and elapsed time the evaporator is on 5min.

11. capsules were removed and taken to the oven at 105 ° C for 10min.

12. was cooled in a desiccator and weighed.

13. valves that let the distillate and recovered all were closed.

Formula used: (3)

% Fat: Weight (capsule + fat) - Empty capsule weight x 100% sample size

Method for determination of total nitrogen and protein (AOA) [1].

Background: The method is based on the digestion of organic sample by action of concentrated H2SO4 and a heat activated catalyst, total organic nitrogen transformed into ammonium sulfate and ammonia released by the action of an alkaline solution (NaOH 60%) . This is because ammonia is distilled off by the time receiving on H3BO3 solution which is then titrated with H2SO4 or standardized HCL. Reagents concentrated H2SO4; Selenium catalyst and potassium sulphate; 60% NaOH solution; H3BO3 solution 2 or 4%; bromocresol green (1: 5 both in 0.2% solution in ethanol) red indicator solution methyl; 0.1N H2SO4 solution or 0.02N HCL. Equipment and materials: analytical balance, digester, micro micro Kjeldahl distillation. Balls 100 mL digestion; pipettes 10 and 25 mL; graduated cylinders 5, 10 mL; 50 mL vials; 50 mL buret.

Procedure: Protein determination is performed in three phases: digestion, distillation and titration.

a) Digestion.

Solid sample weighed about 0.2 grams. dried and ground sample was transferred to a ball digestion, was addeSd 0.2 g. and 2.5 mL catalyst. H2SO4. If more amount of sample is used, add 10 mL. H2SO4 per gram of additional sample. If the sample liquid is 1 mL is taken, weighed and then transferred to the ball digestion, adding the same amount of reagent used for solid samples. Digester heaters on medium heat until the sample was observed initiate digestion and brown crystalline or crystalline straw is placed. Color is obtained digestion 29 is maintained for 30 minutes more balls should be rotated occasionally throughout the process. Completed this phase the heaters are turned off, cooling balls. It should always be on the extractors to allow escape of all gases.

b) Distillation. On the Micro-Kjeldahl distillation.

b.1) the inlet hose to the tap water condenser was connected, letting the water.

b.2) the inlet valve to the internal distillation chamber (1) opened and washed with distilled water, displacing wash water through the valve (2) was repeated several times.

b.3) the outer chamber was filled with distilled water halfway through the valve (3). Always maintaining the same level throughout the process, the outer chamber cool before adding the water.

b.4) Make sure the heating cell does not stick to the walls of the two chambers.

b.5) Close the valves (1) and (2) and keep them throughout the process.

b.6) 5 mL of distilled water to the flask containing the digested sample was added and transferred to the inner chamber of the distiller, drop the sample, add 10 ml of NaOH and close the valve (1).

b.7) was placed in the one end of the capacitor 50 mL vial. With 5 mL of solution of H3BO3 and three drops of indicator. The end of the capacitor must be submerged within the solution of H3BO3.

b.8) Turn on the computer and turn the temperature knob (5). Distill until 25-30 mL of distilled .de, remove the vial and leave out the sample (2). Turn off the heater.

c) Degree.

Titrate with the selected acid until a color change occurs, record the volume of spent acid.

Formula used. (4)

% TOTAL NITROGEN = V.gastado acid. x 1.4 x N.ácido gr. Sample

The protein content is obtained according to the following formula: (5)

% TOTAL PROTEIN NITROGEN =% x factor.

Note:

Acid normality of 0.1 N.

Volume of spent acid (ml.).

Sample Weight (gr.).

Method for determining solubility in water and solvents ogánicos external peach fuzz.

Materials: Pot of porcelain, glass capsule, spatula, water and alcohol.

procedure:

1.- were placed 1 to 2 gr. sample with the spatula in the crucible or the capsule.

2.- Add about 2 to 5 mL. water.

3.-Observe and record what happens.

4. The same procedure is performed from step 1 but in step 2, starting with isopropyl alcohol. May observe the degree of solubility of the outer hair peach (Prunus persica L.) in water and organic solvents. Determnación pH. The pH was determined by the method of tape was placed on the sample, waited a minute and compared to the color card packing, determining the appropriate pH.

Results and discussion:

Table 2 shows the parameter values of the characterization of the outer downy peach (Prunus persica L.), corresponding to samples of Colonia Tovar Tovar Municipality of Aragua state are presented in Venezuela.

Table 2. Physico-Chemical Characterization of outer downy peach (Prunus persica L.) grown in Colonia Tovar-Aragua Venezuela.

Parameters	Average
% of Moisture	10,8
% of Ash	1,4
% of Fat (Excerpt Ethereal)	0,9
% of total Nitrogen	0,7
% of Protein	4,5
Solubility (in water)	Not
Solubility (in solv. Org.)	Yes
pH 25°C	6,0

Parametric values peach (Prunus persica L) reported in Table 3 corresponding to the literature reports reviewed and indicated in the source. To be used as a standard for comparison in the discussion.

Table 3. Physical and Chemical Characteristics of peach.

Paramters	Peach (Prunus pérsica)
% of Moisture	86,4
% of ASH	0,6
% of Fat (Excerpt Ethereal)	0,1
% of Total Nitrogen	low
% of Protein	0,9
pH 25°C	4,0

Source: [8,9,11,15,16];

In this investigation it was found that the external peach fuzz on their chemical characteristics contributed values: 0.7% nitrogen, 4.5% protein, 0.9% fat and ash 1.4%, values higher than those reported by [8,9,15,16], in peach fruit pulp which reached 0.9% protein, 0.1% fat and 0.6% ash.

There is agreement according to the physiology of the plant with those reported by [15,16], who noted that the low percentage of protein and fat is usually due to the stage of plant growth , it distributes more protein and fat to areas of their leaves, stems and flowers, but when the fruit is formed these proteins and fats staying longer in their seed and on the outside of the fruit, the fat that lies outside the fruit is part of the protection that you need to leave your liquids inside, serving as a barrier to early dehydration of fruit. By analyzing other physicochemical parameters in the outer hair peach as pH, pH 6, greater than the pulp of the fruit (peach) which reported [11] was obtained; [9] and [12], pH 4 which extends its range of partnership in mixtures where included. For the solubility, it was demonstrated that the external peach hair is not soluble in water, the sample is suspended floating on top Figure 4 (a) but, if soluble in organic solvents initiating the first demonstration in isopropyl alcohol which the sample absorbs alcohol becoming pasty Figure 4 (b). Its solubility is clearly defined in the qualifying group: B and A1; grouping organic compounds with basic functional groups insoluble in water, providing information on their structural composition. This may be a limitation for use in industrial processes requiring association commodities where organic solvents are involved.

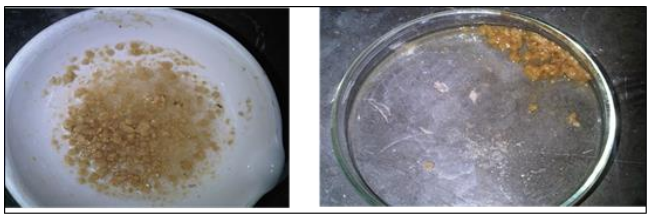

Figure 4. (a) Solubility Figure 4. (b) solubility in water. solventes.

Moisture external peach fuzz reported average values of 10.8% moisture [11], staying with matted appearance of white granules of different sizes (Figure 5). Comparing with moist fruit (peach) is much greater with a percentage of 86.4%. As reported by [12,13], the fruit pulp is comprised almost entirely of water; the water insoluble external downy, part of the fruit as part of any protective external environment which could damage and alter its properties.

Figure 5 Signs of external dry downy peach (Prunus persica L.).

Conclusions

The outer downy peach is an organic waste which by its protein content 4.5% and 1.4% ash is an important element in the premix plant material for the production of silage, as well as blocks multi- nutritional animal feed. Its nutrient content is not negligible, could be classified as an organic waste feedstock in the rural, small and medium agribusiness company producing organic fertilizers bocashi type and liquid humus.

Harvesting considered a rest can propose their use as aggregate in fertilizer mixtures are made in the agronomic crop management peach due nutrient demands that warrants production plant to ensure the quality of the size and color of the fruit.

The solubility of the organic matter in organic solvents and released them after drying, is another important feature to consider from the point of view of utilization for food industry (micronutrients, fiber and protein), drug and cosmetic (scrub) and ingredient or added according to previously established technological purposes

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