

Summary

Summary

1. Whey protein is essential for building muscles. It's derived from cow milk as a by-product during the cheese making process. A typical factory produces about 10,000 bottles of whey protein per day. It undergoes several important steps from dairy farms to the factory floor before assuming its final form. 2. The process begins with the collection of milk from dairy farms. The cows are milked two times a day and can produce anywhere from 25 to 35 liters of milk a day. Robotic systems are used to milk the cows to make the milking process more efficient. Upon arrival at the processing facility, the milk undergoes quality testing. 3. The first step in the actual whey protein production is curdling the milk. This is typically achieved through the addition of rennet, an enzyme complex containing chymosin. Rennet helps coagulate the milk proteins, separating them into solid curds. After pasteurization, the milk is rapidly cooled to a temperature of 4 degrees. 4. The coagulated milk is then separated into solid curds and liquid whey. The liquid whey contains water, lactose, minerals, and proteins. The separated whey undergoes pasteurization again to eliminate any remaining bacteria or microorganisms. This helps ensure the safety and quality of the final whey protein product. 5. The raw whey is sent through a column that collects proteins and separates them based on differences in their net charge. The rest, lactose and minerals is washed away and further processed into a different ingredient. Ion exchange allows the selection of all functional and nutritional proteins in whey, including bioactive proteins such as immunoglobulins and lactoferrin. 6. The dried whey protein is then transferred to a mixing facility where it is weighed and mixed with other flavorings and sweeteners. The materials are then mixed in large rotating drums to ensure a consistent product that tastes the same throughout. The size of the powder particles can be controlled by adjusting the parameters of the spray drying process. 7. An automatic filling machine is used to fill each can with a precise amount of protein powder. After filling, each container undergoes a weight check to ensure that packaging has been done correctly. After the filling has been completed, a labeling machine labels each container with important information such as the name of the product, nutritional information,

and instructions for use. 8. The goal of major nutrition companies is to offer better nutrition products. Way protein can now be found in infant nutrition formulas to supplements for the elderly. Taste, texture, and consistency are correct. If not, the batch is put on hold and sent back to blending, so nothing will be wasted.