establish a negative pressure in an environment above the ozone water sterilization tank, and to constantly discharge the desorbed ozone gas. In this way, the ozone gas is prevented from being discharged to the outside of this system.

[0008]

However, while the above-mentioned configuration can prevent the ozone gas from being leaked to the outside, this configuration also prompts the ozone gas to be desorbed from the ozone water since the venting fan encourages the discharge thereof. As a consequence, an amount of the ozone gas used increases in order to recover a reduction in concentration of the ozone gas, which leads to a high operating cost.

[0009]

The present invention has been made in view of the aforementioned problems. A problem to be solved by the present invention is to provide a vegetable sterilization apparatus and a method for producing sterilized vegetables, which are capable of suppressing desorption of ozone gas and more reliably preventing a leakage of the ozone gas to the outside at the same time.

Solution to Problem

[0009a]

According to a first aspect of the present invention, there is provided a vegetable sterilization apparatus comprising: a sterilization tank configured to sterilize vegetables by immersing the vegetables in ozone water, wherein a space above the ozone water held in the sterilization tank is made airtight.

[0009b]

According to a second aspect of the present invention, there is provided a method for producing sterilized vegetables comprising: a sterilization step of sterilizing vegetables by immersing the vegetables in ozone water in a sterilization tank in which the ozone water is held and a space above the held ozone

water is made airtight; an air feed step of setting an air pressure inside a vegetable treatment tank higher than an air pressure inside the sterilization tank, the vegetable treatment tank being provided to at least one of a preceding stage and a subsequent stage of the sterilization tank; and a transport step of transporting the vegetables between the vegetable treatment tank with the air pressure set higher in the air feed step and the sterilization tank.

[0010]

As a result of earnest studies by the inventors of the present invention in order to solve the aforementioned problem, the inventors have found out that the problem can be solved by establishing airtightness of a portion above at least an ozone water sterilization tank among the ozone water sterilization tank and other tanks provided as appropriate and annexed thereto.

Advantageous Effects of Invention

[0011]

According to the present invention, it is possible to provide a vegetable sterilization apparatus and a method for