



What are Extend-A-Life™ ethylene removal systems, filters and sachets?

Extend-A-Life™ systems and filters are unique ethylene absorption products, sold exclusively by AgraCo Technologies International LLC.

What do they do?

Virtually all fruits and vegetables give off a natural gas called ethylene. This gas starts the ripening cycle. Our Extend-A-Life™ filters and sachets absorb most of the ethylene produced by these fruits and vegetables. By absorbing this ethylene gas, our filters, sachets and systems will increase the shelf life of most fruits and vegetables by as much as two to four weeks longer than normal.

Do all fruits and vegetables give off ethylene gas?

Generally the answer is yes. However, most fruits and vegetables are categorized into two groups, those that are considered ethylene producers, and those that are considered ethylene sensitive.

What do you mean by ethylene producers and ethylene sensitive?

Products such as melons, bananas, avocados and tomatoes are considered ethylene producers. Products such as lettuce, broccoli, and carrots are considered ethylene sensitive.

Is this important?

Absolutely! Growers of fruits and vegetables that are ethylene producers need to find ways to reduce the amount of ethylene the products generate, whether it is in their warehouse, cold rooms, trucks or shipping containers. By reducing the ethylene with our Extend-A-Life™ filters, sachets and systems, we can give them longer shelf life and better quality arrivals of their fruits and vegetables. For growers of ethylene sensitive products, we can reduce the risk of ethylene contamination. Even small parts of ethylene gas have been proven to drastically affect the quality and shelf life of ethylene sensitive products. As little as 1 part per million of ethylene gas in the air can cause damage. Some particular problems that will occur with ethylene sensitive products are: lettuce will turn brown and spotted, carrots will taste bitter, and broccoli will turn yellow.

Do people and companies store ethylene producers and ethylene sensitive products together?

Yes. Military Units have limited space, Navy ships are constrained by the ship designs, and many companies, particularly hotels, restaurants and wholesalers, still store fruits and vegetables together, either because of their limited storage facilities or lack of knowledge of the effects of ethylene gas and ethylene contamination. Our line of filters can greatly reduce the amount of ethylene in the cold rooms, trailers and refrigerated containers.

What specific products does AgraCo Technologies International offer in the way of Extend-A-Life™ products?

We have a number of Extend-A-Life™ products for both the commercial and home market:



Electric Ethylene Absorber Unit Model 341: This is an electrical blower that is designed for larger cold rooms. It has a motor and fan that forces additional air through the filters designed for this unit to absorb ethylene. One Model 341 unit is generally good for a cold room up to 45,000 cubic feet. You may need several of these units depending on the size of the cold rooms and the produce stored. We have sold these units to major produce wholesalers, retailers, cold storage facilities, importers, exporters, growers and distributors.



Ethylene Absorber Filter Model 341: These are the filters that are attached to the Electric Ethylene Absorber Unit Model 341. These filters can also be attached to existing refrigeration blower units in some cold room facilities. The filters need to be changed every other month. Generally, after two months the filters have absorbed about as much ethylene as possible, their effectiveness is neutralized, and the filters become inert (used up). We generally deliver filters to our warehouse customers automatically, every sixty

days.



Ethylene Absorber Filter Model 350: These are our smaller filters, which are used in smaller cold rooms, refrigerated warehouses, refrigerated trailers, and shipping containers. The filters are attached to the blower air intake or can also be hung in the air stream of the refrigeration unit. When used in a cold room, we generally recommend using several filters per refrigerator blower unit. Again, we recommend changing these

filters every month. If these filters are to be used in a shipping container, we suggest that the filters be suspended near the blower unit in the front of the container. If the container is using an air chute, we recommend that the filters be suspended at the back of the container with a loading bar. The key is to make sure that air passes through the filters. We generally recommend that if product is being shipped up to seven (7) days, use one filter per container. From seven (7) to fourteen (14) days use two (2) to three (3) filters per container and from fourteen (14) to twenty one (21) days we recommend between three (3) and four (4) filters per container. For shipping containers, we recommend that filters be discarded on arrival. We also recommend against placement of filters between pallets of cargo, since the filters are more effective when placed in the air stream above the product.



Produce Saver Sachets™ (Bulk Pack): These are individual sachets, packed 27 gram/300 sachets to a master box and 9 gram/1000 sachets to a master box. These sachets are used by growers/shippers for placement in each box of fruits or vegetables they sell. The sachets are also sold to companies and retailers who sell fresh fruit baskets during the holidays. These sachets give the fruit baskets a longer shelf life and improve the appearance and quality of the fruit.



Produce Saver™ sachets are also used by fresh cut flower producers. Several sachets per box of fresh cut flowers will protect the flowers from ethylene damage. AgraCo's sachets sold for flowers are marketed under the name of Floral Saver™. All of our sachets are packaged inside special plastic packaging. It is water proof, yet the product can breathe, and air can circulate through it.



Produce Saver™ Sachets (Retail Pack): These are colorfully packaged Produce Saver sachets, packaged two (2) sachets per pack. They are sold fifteen (15) packs per case. The retail Produce Saver™ sachets are sold in the produce department of Supermarkets, Farm Markets or specialty shops. Customers purchase these sachets and place them in the crisper bin of the home refrigerator. Since most consumers store produce together (ethylene producers and ethylene sensitive) the sachets will absorb the ethylene and prolong the life of the produce. Most retail customers will increase the shelf life of their produce by two to three weeks. Studies show that, on average, twenty (20%) percent of all produce purchased by American

consumers is discarded before it can be eaten. Virtually all consumers admit that they have thrown some fresh fruits and vegetables out before they have had a chance to eat them. This product enables consumers to use virtually all of the fresh fruits and vegetables they purchase.

What makes our Extend-A-Life™ products work?

The active ingredient of our Extend-A-Life™ filters is potassium permanganate. This chemical has been scientifically proven to absorb ethylene. The second element of our filters is a mined mineral call zeolite.

Zeolite has the appearance of small rock granules, and is purple when coated with Potassium Permanganate. Zeolite is used because it allows air to circulate throughout the filters and sachets. AgraCo's filter products are safe, have been approved by the California Organic Handbook, and recommended by the U.S. Department of Agricultural for use in removing ethylene gas in conjunction with the storage and transportation of fruits and vegetables. AgraCo filters contain no hazardous materials and may be disposed of in ordinary municipal waste.

Do we have any competition in the area of ethylene absorption systems or products?

There are several competitors in this field, who have been in business for several years and have had modest success. They are generally small companies, with limited funds and personnel. We do not consider our competitor's products to be as effective or as well-made as our products, and we consider our products to be superior, since they are designed to a high standard for military use in harsh and demanding environments. Our filters are encased in a thin metal shell to reduce the chance that any part of the filter elements can come in contact with the user, or that the filter can break apart and come in contact with any food product. A number of our competitors have cloth or paper en-casements, leading to the possibility of ripping or tearing, allowing filter elements to come in contact with food or persons.

Are the filters good for the hotel and restaurant business?

Absolutely! Most hotel and restaurant buyers know they have a problem with ethylene contamination. They have to store all of their fruits and vegetables in the same rooms. If melons and apples are stored next to lettuce, it will turn the lettuce brown and it will start to spot and wilt. Next to broccoli it will turn yellow, next to carrots, they will taste bitter. Basically, the ethylene sensitive products will break down faster when contaminated. Our Extend-a-Life™ filters will absorb the ethylene, protecting the products and extending the shelf life of fruits and vegetables.

If a customer is interested in our Extend-A-Life™ products, but not sure if they will work for his products or operation, what is the best way to approach this situation?

We know that our products work. Contact one of our sales personnel, or call our office today. We will be happy to evaluate your situation and give you our best advice as to whether ethylene filtering will work for your business.