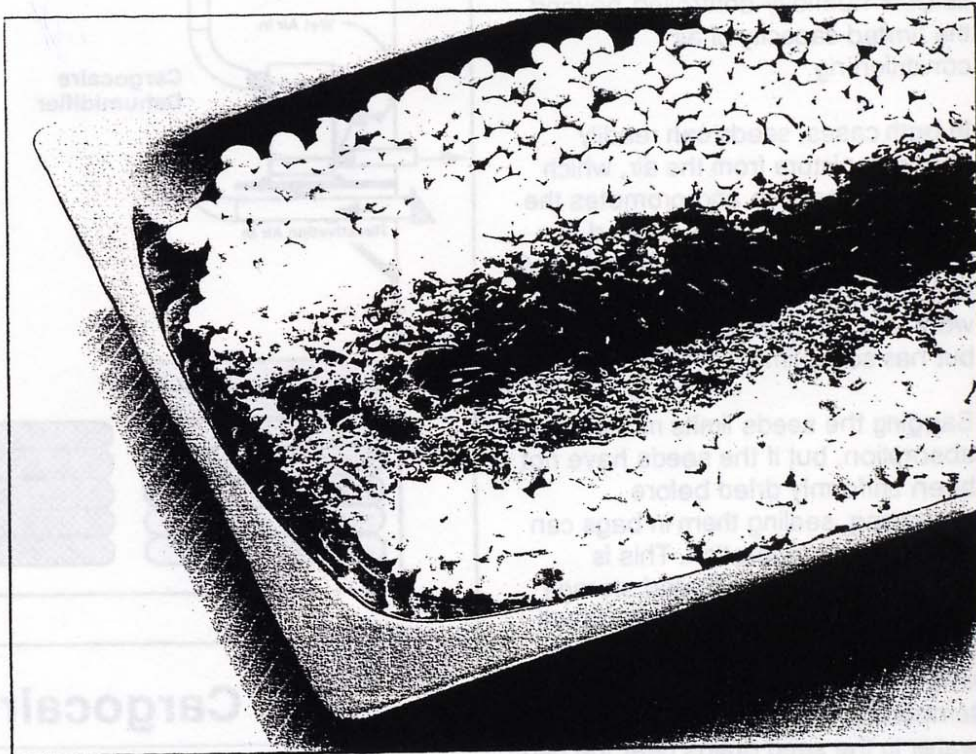


## Seed Storage

### Dehumidification Application

*Storing seeds at low relative humidity conserves energy, extends seed life, prevents storage losses and saves thousands of dollars every year.*



Seed storage facilities protect a very large investment. The cost of seeds is high, and in research applications, the seeds may be irreplaceable at any price. Thousands of dollars and hours of costly effort can be lost at a single stroke when fungus and mold attack seeds in storage.

The cause of this damage is simple: too much moisture in the seeds combines with warm temperatures to provide an ideal environment for microbiological growth that destroys your investment.

Cargocaire dehumidifiers keep the air dry around the seeds—so they cannot absorb excess moisture that leads to fungus growth. Cargocaire dehumidifiers work on the desiccant principle so they protect your seeds at any temperature without freeze-up problems or loss of efficiency.

### Distinctive Benefits

- **Extend Storage Life**

Seedsmen report a tripling of storage life in the low relative humidity environment that Cargocaire dehumidifiers can provide for your valuable products.

- **Avoid Costly Repackaging**

Since the Cargocaire units prevent moisture regain, there is no need to invest the time and money to repackage seeds in vapor-tight bags. You can save thousands of dollars and hundreds of hours annually.

- **Improve Indoor Air Quality**

When fungus is eliminated, the working environment for your employees improves considerably. Dry environments can reduce the microbiological growth to less than 1/10th of the growth in a humid building.

- **Insure Safe Cold Storage**

Seeds last longer at low temperature. Since Cargocaire dehumidifiers work equally well at high and low temperatures, you can store seeds at any temperature they need without having to worry about high humidity.

- **Reduce Winter Heating Bills**

The low temperature capability of Cargocaire dehumidifiers allows you to turn off the heat in your storage facility completely, and still maintain control of the relative humidity in the space.

There is no need to heat a building to control humidity or prevent condensation. Cargocaire dehumidifiers take care of a moisture problem much less expensively than a heater. You save thousands of dollars on heating every year, and get a cooler and better storage environment as well.



## Conventional Systems

Large seed storage facilities are often built without climate control because of the cost of air conditioning. Small facilities are often air conditioned, but seldom humidity-controlled beyond the limited capacity of air conditioning.

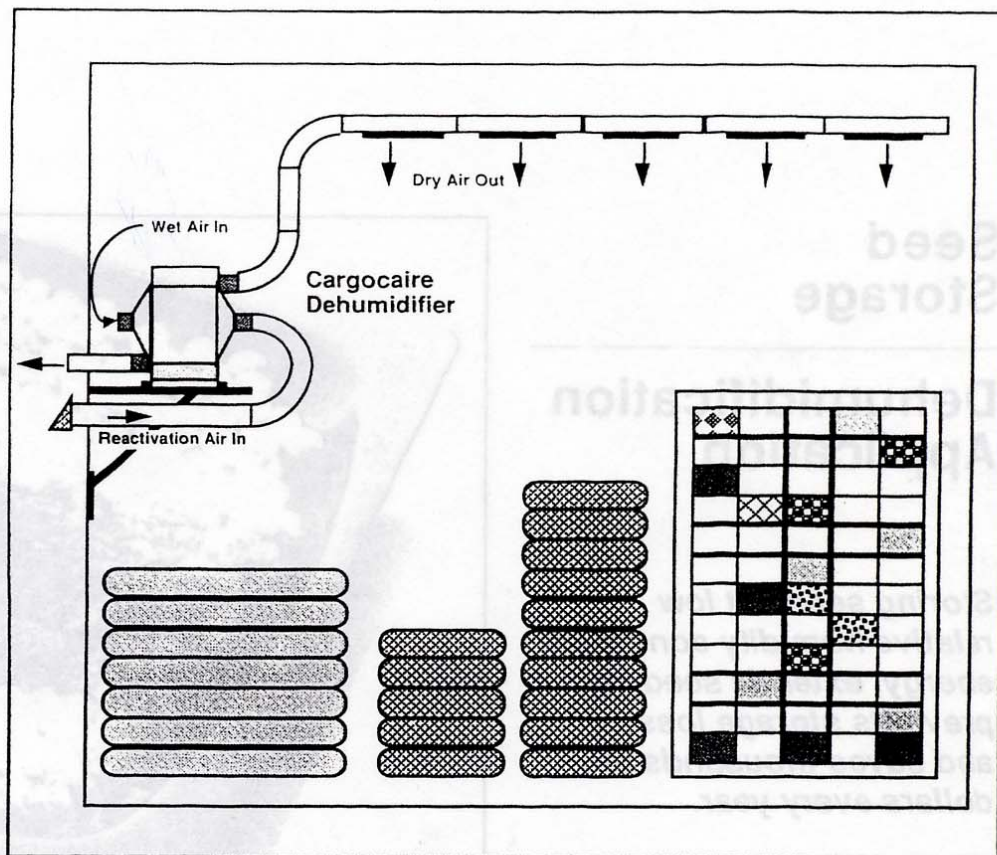
In both cases, seeds can readily absorb moisture from the air, which shortens seed life and promotes the growth of fungus. One method of minimizing the problem is to package seeds in vapor-proof bags. This can work effectively in some situations, but has some limitations.

Bagging the seeds limits moisture absorption, but if the seeds have not been uniformly dried before packaging, sealing them in bags can accelerate deterioration. This is especially true in unheated storage structures. The excess moisture will condense on the inside of the bag when it is exposed to low temperatures. This provides liquid water to the seed grains near the bag wall, which rapidly begin to grow fungus. Bag sealing is also expensive, and it limits flexibility.

Another alternative is humidity control through air conditioning. The limitations of this method include first cost, operating cost and the degree of dryness which can be achieved.

An air conditioning system must be substantially oversized, and must include expensive reheat energy to become an effective dehumidifier for low humidity environments. It is quite costly to install and operate. During winter, the building must be heated for humidity control, which is unnecessarily costly.

Finally, air conditioning systems cannot—as a practical matter—reach the beneficial low humidity levels required for seed storage. At low temperatures and humidities, cooling coils freeze up. Clearly, a better solution is required.



## The Cargocaire Improvement

Cargocaire dehumidifiers deal with the problem directly—by absorbing the moisture from the air as a vapor. There are no cooling coils to freeze, no condensate to drain and the desiccant that absorbs the moisture becomes even more efficient in cold weather.

This means you can provide whatever relative humidity you need to protect your investment. Cargocaire dehumidifiers will maintain the relative humidity from 60% to as low as 1% RH if that is what your product requires.

Since Cargocaire dehumidifiers will not freeze, they work as effectively in winter as in summer to protect stored seeds. You can eliminate heat from the building entirely, with no concern about high humidity in the storage area. This means you can save costly insulation when you build a new building, and save winter fuel bills on both new and older buildings.

Heating and cooling equipment can be used for its primary purpose, temperature control, and Cargocaire equipment can insure a reliable, efficient, low humidity environment.

An especially important feature of Cargocaire products is the support behind each installation. Our 50 years of experience are focused on your particular needs. Cargocaire sales representatives will survey your facility, recommending the appropriate equipment to meet your unique requirements.

Cargocaire offers service assistance 24 hours a day, 7 days a week. The company is part of the worldwide network of the Munters Group—providing solid support for your operations across the U.S. and throughout the world.