

Winter Storage of Chemicals

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Now that cold weather is just around the corner, if not here already, some thought must be given to our investment in plant protection chemicals to ensure their viability for next season. Ideally, we would have planned our purchases to exactly meet our needs for the season and we wouldn't have to worry about over-winter storage. Things rarely work out that well so let's look at what we can do to safeguard our materials.

Most chemicals have an expected shelf life of several seasons if properly handled and stored. Again, good planning and cooperative weather go a long way toward ensuring that what we have is fresh and viable. The biggest culprits to diminishing the shelf life are temperature and moisture followed by sunlight. Most chemical labels suggest storing the product a cool, dry place out of direct sunlight. With a little common sense, we can accomplish this mission without a lot of hassle. Grouping the chemicals by formulation, we can set some guidelines for proper storage.

Granules: Bags of pre-emergence, fertilizers, insecticides and others must be kept *dry*. Any opened bags remaining would probably be best used up on an appropriate site before winter. Open bags can allow air in and cause active ingredients to volatilize and escape. Freezing temperatures will not affect these materials but extremely high temperatures could. Try to cover the bags with a plastic sheet, even if stored in a building to further protect them from possible moisture or things that might be set on them over the winter. Always store them up off the floor, at least on a pallet, as they can draw moisture from cold damp surfaces.

Wettable powders, dry flowables, dispersible granules: These formulations are also not affected by cold temperatures but we should protect them from extremely high temperatures, moisture and direct sunlight. Some packaging could be damaged by water, certainly the cardboard cases they come in. You will want to be able to read the label when you go to use it next spring, so look for a clean, dry area out of direct sunlight. Try to keep this packaging up off the floor also.

Liquids: These products, whether they are petroleum or water based, need to be protected from freezing conditions. These formulations have active ingredients suspended or dissolved in a carrier. Under low temperature conditions, the active ingredients can "salt out" or precipitate and it may be quite difficult to get it back into suspension or solution. Worse yet, you may not realize that it precipitated and pour only carrier or highly concen-

trated active into your spray tank next spring. Freezing of water-based formulations could rupture the container and create an unexpected spill when it thaws.

Any properly constructed and approved chemical storage structure will provide protection for the granules and dry formulations listed above. Only a heated storage facility will provide adequate protection for the liquids. If you don't have on-site storage to provide proper conditions, try to find someone who does and will help you out by storing those materials for you.

Always try to plan your purchases so that you minimize the amount of material you might have to carry over from one season to the next. When you do need to carry something over, remember the essential rules of keeping it cool, dry and out of the sunlight. It's also a good idea to check the lids on any containers to make sure they are tight. Finally, never store pesticides with food, feed, drugs or clothing.



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