Cold temperature and herbicide storage

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Cold temperatures can affect herbicide performance; applications of postemergence products under cool conditions may result in delays in symptom development and some treatments may fail altogether. Cold temperatures are also a concern for stored herbicides, particularly liquid products. Freezing (which may occur at temperatures below 32 F for some formulated products) can result in the active ingredient settling out of solution. Some, but not all, labels will provide advice regarding resuspension. If in doubt, call your pesticide dealer or the product manufacturer to determine if the herbicide contents can be re-dissolved and used, safely and effectively. While degradation of the herbicide itself is an important concern, don't overlook potential damage to pesticide storage containers under cold conditions. For example, freeze-thaw cycles can cause liquids to expand and contract, which may result in cracks in bottles. Cold weather conditions may make some plastics more brittle and prone to leaking. While dry formulations are less affected by low temperatures, they are sensitive to moisture; keep these products dry to prevent them from degrading or solidifying.

Always review herbicide labels for information regarding minimum temperature storage restrictions, which can vary greatly among products. For example, while many dry-formulated products have no limitations, Prowl H2O and Nortron should not be stored below 40 F and Reflex and Stinger should not be stored below 32 F. Other products have lower limits of 10 F or even less. Some labels may not report a specific temperature requirement but may have other handling recommendations such as "protect from freezing". Don't forget to review the storage requirements for your adjuvants as well.

Some general notes about herbicide storage:

- Always store products in original containers and make sure that the containers are sealed tightly. Store dry formulated products above liquid products to minimize the potential for contamination due to leaking.
- Keep containers away from children, pets, and livestock; also, human and animal food/feed. Store products away from houses, gardens, wells, irrigation canals, creeks and/or other waterways.
- Store pesticides in a locked and well-ventilated space that is both fire- and flood-resistant. Make sure that the space is properly identified as being a pesticide storage facility (to alert first responders or other personnel in case of an emergency). Keep current and detailed records of which products are at a site.
- To prevent cross contamination, do not intermix insecticides and fungicides with herbicides.

For more information about temperature extremes as pesticide storage, please see:

pdf\PI\PI16000.pdf (ufl.edu)

Temperature Effects on Storage of Agricultural Pesticides | MU Extension (missouri.edu)

Watch winter storage temperatures of herbicide (montana.edu)