

THOUGHTS ON GROWTH REGULATOR SHELF LIFE*

Adapted by Allen C. Botacchi
Extension Horticultural Agent

Growth regulators are similar to most pesticides in that they are complicated organic compounds.

Proper storage conditions include a cool, dark site to prevent photodegradation. Temperatures below freezing and above 100°F break down growth regulators.

All manufacturers advise keeping liquid and powdered formulations in tightly sealed containers and mixing only the amount of material to be used immediately. SADH (B-Nine SP or Alar) begins to deteriorate within 24 hours once mixed with water. Thus the manufacturer suggests mixing SADH with water just prior to its use. This is contrary to previous recommendations which suggested making a 5% stock solution from the 85% soluble powder.

Precautions to take in preparing and using growth regulators are as follows:

1. Store materials in a dark, cool place.
2. Accurately measure only the material needed to treat the number of plants.
3. Discard any excess mixed material, do not let it stand overnight.
4. Follow all label directions and warnings.
5. Do not buy more growth regulator than you can use in two years.

*Peterson, John C. 1981. *Thoughts on Growth Regulator Shelf Life. Ohio Florists' Assn. Bul. #616:4,8.*

Table 1 below outlines the specifics on the shelf life of some of the common growth regulators.

Table 1. Shelf Life of Selected Growth Regulators.

<u>Growth Regulator</u>	<u>Shelf Life</u>
Ancymidol (A-Rest) 0.0264% liquid concentrate	At least 3 years
<u>Comments:</u> Short term elevated temperature (120°F) tests showed no instability problems with active ingredient.	
Chlormequat (Cycocel) 11.8% liquid concentrate	At least 2 years
<u>Comments:</u> If stored under normal conditions, shelf life can be longer, but manufacturer only monitors effectiveness for two years.	
Dikegulac Sodium (Atrinal) 18.5% liquid concentrate	Indefinitely
<u>Comments:</u> Quite stable under temperatures of 100-120°F.	
Ethephon (Florel) 3.9% liquid concentrate	Indefinitely
<u>Comments:</u> Under normal care and handling (temperatures less than 100-120°F), good indefinitely.	
Gibberllic Acid (Pro-Gibb) 3.9% liquid concentrate	At least 2 years
<u>Comments:</u> Keep container sealed tightly, active ingredient begins to degrade when mixed with water. Use immediately after mixing.	
SADH (B-Nine SP or Alar) 85% soluble powder	At least 2 years
<u>Comments:</u> Keep dry and tightly sealed in container, since product is hygroscopic (absorbs moisture from air). Use mixed solutions as soon as possible, begins degrading within 24 hours.	