

ACCEPTED

ACTIVE INGREDIENT

Succinic Acid, 2, 2 dimethylhydrazide 85.0%

INERT INGREDIENTS

15.0%

TOTAL 100.0%

NET WEIGHT:

EPA REG. NO: 2749-191

CAUTION: KEEP OUT OF THE REACH OF CHILDREN.

KEEP AWAY FROM DOMESTIC ANIMALS AND FOODSTUFFS.

MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION OF EYES, NOSE, THROAT AND SKIN. AVOID INHALATION OF DUST. AVOID CONTACT WITH SKIN, EYES OR CLOTHING.

IN CASE OF CONTACT, FLUSH WITH PLENTY OF WATER. FOR EYES - GET MEDICAL ATTENTION.

DO NOT REUSE EMPTY CONTAINER. DESTROY EMPTY CONTAINER BY PERFORATING OR CRUSHING AND BURYING IN A SAFE PLACE.

GENERAL INSTRUCTIONS

SAD 85 is a water soluble plant growth regulant. It should be noted that applied as a foliar spray in a manner that insures uniform and complete coverage. Since SAD 85 must be absorbed by the plant to be effective, it is necessary that the application be followed by a 12 hour rain free period.

APPLES

Use only on healthy, vigorous trees. Under no conditions should SAD 85 be used on low vigor trees under stress conditions as excessive reduction in fruit size and vegetation growth may result. The effects of SAD 85 will vary depending on time and rate of application. The higher the rate, the greater the magnitude of effect during the year of treatment and the greater the possibility for the following season effects.

Depending on time and rate of application, SAD 85 will produce multiple desirable effects (See Table 1)

TABLE 1
DESIRABLE EFFECTS

1. Apple maturity is delayed and the harvest period is extended
2. Increased red color may result on red varieties.
3. Aids in fruit drop control
4. Increases firmness of fruit
5. Reduces incidence of scald on some varieties
6. Delays occurrence of water core
7. Controls fruit size
8. Reduces vegetative growth
9. Promotes flower bud initiation, increasing return bloom

TIMING OF SAD 85 APPLICATIONS

SAD 85 can be sprayed on apple trees beginning 10 days after petals fall to 60 days before normal Harvest. (Northwest U.S. 10-80 days after full bloom).

SAD 85 should be used only on apple varieties which have a bloom to harvest day count of over 100 days.

SAD 85 should be applied only once during the growing season at times based on bloom, petal fall, or anticipated harvest date.

(A) 60-70 days before normal harvest date (Northwest U.S. 70-80 days past full bloom).

Desirable effects 1 through 6 listed on Table 1 are obtained.

The effects on fruit size reductions will usually be the only slight. No significant effect on vegetable growth will result and little or no return bloom effects will be needed.

See dosage table for rate recommendation.

(B) 21 days after petal fall to 70 days prior to normal harvest (Northwest U.S. 14 days to 70 days after full bloom).

Desirable effects 1-6 listed on Table 1 are obtained.

In addition, fruit size control, vegetable growth control and return bloom (7-9 listed in Table 1) effects may be obtained. These effects are pronounced when application of SAD 85 is made early in this time period. Effects are reduced with application made during the later portion of this period.

See dosage table for rate recommendations.

(C) 10 to 21 days after petal fall (Northwest U.S. 10 to 14 days after full bloom).

Desirable effects 1 - 9 listed in Table 1 are obtained.

This timing will cause a significant reduction in fruit size. It is recommended only when fruit size reduction is desired.

Where vegetative growth control and increased return bloom are primary objectives, this timing should be used. Where maximum vegetative growth control is desired apply SAD 85 when terminal growth is approximately 2-3 inches long.

Young non bearing trees: Use this timing to promote flower bud initiation and for vegetative growth control

See Dosage Table for rate recommendations.

TABLE 2

EFFECTS	EFFECTS TIMING SUMMARY		
	10 to 21 DAYS POST PETAL FALL (N.W. U.S. 10 to 14 DAYS) AFTER FULL BLOOM	21 DAYS POST PETAL FALL TO 70 DAYS PRENORMAL HARVEST IN W. U.S. 14 DAYS to 70 DAYS AFTER FULL BLOOM	60 to 70 DAYS PRENORMAL HARVEST (N.W. U.S. 70 to 80 DAYS) AFTER FULL BLOOM
1. Delayed maturity	Yes	Yes	Yes
2. Increased red color	Yes	Yes	Yes
3. Decreased fruit drop	Yes	Yes	Yes
4. Increased firmness	Yes	Yes	Yes
5. Reduced scald	Yes	Yes	Yes
6. Delayed water core	Yes	Yes	Yes
7. Controls fruit size	Greatest	Moderate	Least
8. Reduced vegetative growth	Greatest	Moderate	Least
9. Flower bud initiation, increasing return bloom	Greatest	Moderate	Least

SAD 85
PLANT GROWTH REGULATOR

FOLLOWING SEASON EFFECTS

SAD 85 may increase apple set the year following treatment. Where excessive fruit set is observed, thinning should be utilized prior to any SAD 85 application.

If excessive fruit set is observed accompanied by size reduction, shallow stem cavities, and misshaped fruit, do not treat with SAD 85.

Leave some untreated trees in each orchard for comparison with treated trees.

Earlier application dates and lower recommended rates minimize the possibility of following season effects.

APPLICATION NOTES AND PRECAUTIONS

1. On apples, the earlier the SAD 85 is applied and the higher the rate used, the greater the reduction in fruit size. Less fruit size reduction occurs on high vigor trees.
2. No not spray on any low vigor trees or trees under stress conditions such as drought, low fertility, winter injury, etc. since excessive reduction in both fruit size and tree growth may result.
3. Spray only once during a year. Split applications are not recommended.
4. Do not mix SAD 85 with other pesticides. When SAD 85 is mixed with water for spraying, use the mixture on the same day.
5. Do not graze animals on cover crops grown among trees listed on this label. Do not feed livestock apple pomace from SAD 85 treated apples.

TABLE 3

TREE VIGOR	10-20 days after petal fall (N.W. U.S. 10-14 days after full bloom)	21 days after petal fall to 70 days prior to normal harvest (N.W. U.S. 14-70 days after full bloom)	60-70 days prior to normal harvest (N.W. U.S. 70-80 days after full bloom)
LOW	1.0-1.5	DO NOT USE	DO NOT USE
MODERATE	1.0-1.5	1.0-1.5	1.0-1.5
GOOD TO HIGH (B)	1.0-1.5	1.0-1.5	1.0-1.5
VERY HIGH (B)	2.0	1.0-1.5	1.0-1.5
YOUNG NON BEARING TREES	1.0-2.0	1.0-1.5	1.0-1.5

footnote

1. Maintenance of vigorous trees is essential for optimum production. Careful pruning, proper removal of weak wood, proper fertilization, and irrigation practices which contribute to high tree vigor should be used. Use of these practices will assist in determining degree of tree vigor.
2. This dilution rate is based on average application rate on mature bearing trees. Most field applications can be made at lower rates. Do not exceed the per acre rate recommended.

4. On Golden Delicious 4.0-8.0 lbs/acre

5. Do not use more

PEACHES

To hasten ripening
Mix at the rate of
4.8 pounds of SAD
13 weeks post bloom
Apply only one spray
Do not spray low vigor

SWEET CHERRIES

To hasten ripening
Mix at the rate of
4.8 pounds of SAD
Apply only one spray
Do not spray low vigor

GRAPES

Concord Variety Only
Apply during the period

PLANT GROWTH

PLANT GROWTH



SAD 85 PLANT GROWTH REGULATOR

TIMING OF SAD 85 APPLICATIONS

85.0% SAD 85 can be sprayed on apple trees beginning 10 days after petals fall to 60 days before normal harvest (Northwest U.S. 10-80 days after full bloom).

15.0% SAD 85 should be used only on apple varieties which have a bloom to harvest day count of over 100 days.

100.0% SAD 85 should be applied only once during the growing season at times based on bloom, petal fall, or anticipated harvest date.

(A) 60-70 days before normal harvest date (Northwest U.S. 70-80 days past full bloom).

Desirable effects 1 through 6 listed on Table 1 are obtained.

The effects on fruit size reductions will usually be the only slight. No significant effect on vegetable growth will result and little or no return bloom effects will be needed.

See dosage table for rate recommendation.

(B) 21 days after petal fall to 70 days prior to normal harvest (Northwest U.S. 14 days to 70 days after full bloom)

Desirable effects 1 - 6 listed on Table 1 are obtained.

In addition, fruit size control, vegetable growth control and return bloom (7-9 listed in Table 1) effects may be obtained. These effects are pronounced when application of SAD 85 is made early in this time period. Effects are reduced with application made during the later portion of this period.

See dosage table for rate recommendations.

(C) 10 to 21 days after petal fall (Northwest U.S. 10 to 14 days after full bloom)

Desirable effects 1 - 9 listed in Table 1 are obtained.

This timing will cause a significant reduction in fruit size. It is recommended only when fruit size reduction is desired.

Where vegetative growth control and increased return bloom are primary objectives, this timing should be used. Where maximum vegetative growth control is desired apply SAD 85 when terminal growth is approximately 2-3 inches long.

Young non bearing trees: Use this timing to promote flower bud initiation and for vegetative growth control.

See Dosage Table for rate recommendations.

TABLE 2

EFFECTS - TIMING SUMMARY

EFFECTS	10 to 21 DAYS POST PETAL FALL (N.W. U.S. 10 to 14 DAYS) AFTER FULL BLOOM			21 DAYS POST PETAL FALL TO 70 DAYS PRENORMAL HARVEST (N.W. U.S. 14 DAYS to 70 DAYS) AFTER FULL BLOOM		60 to 70 DAYS PRENORMAL HARVEST (N.W. U.S. 70 to 80 DAYS) AFTER FULL BLOOM	
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1. Delayed maturity	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Increased red color	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Decreased fruit drop	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Increased firmness	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5. Reduced scald	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6. Delayed water core	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7. Controls fruit size	Excellent	Good	Moderate	Least	None	None	None
8. Reduced vegetative growth	Excellent	Good	Moderate	Least	None	None	None
9. Increased return bloom	Excellent	Good	Moderate	Least	None	None	None

FOLLOWING SEASON EFFECTS:

SAD 85 may increase apple set the year following treatment. Where a heavy or excessive fruit set is observed, thinning should be utilized prior to any SAD 85 application.

If excessive fruit set is observed accompanied by size reduction, short thickened stems, shallow stem cavities, and misshaped fruit, do not treat with SAD 85.

Leave some untreated trees in each orchard for comparison with treated trees.

Earlier application dates and lower recommended rates minimize the possibility of following season effects.

APPLICATION NOTES AND PRECAUTIONS:

- On apples, the earlier the SAD 85 is applied and the higher the rate used, the greater the reduction in fruit size. Less fruit size reduction occurs on high vigor trees.
- No not spray on any low vigor trees or trees under stress conditions such as drought, low fertility, winter injury, etc. since excessive reduction in both fruit size and tree growth may result.
- Spray only once during a year. Split applications are not recommended.
- Do not mix SAD 85 with other pesticides. When SAD 85 is mixed with water for spraying, use the mixture on the same day.
- Do not graze animals on cover crops grown among trees listed on this label. Do not feed livestock apple pomace from SAD 85 treated apples.

TABLE 3

TREE VIGOR	10-20 days after petal fall (N.W. U.S. 10-14 days after full bloom)	21 days after petal fall to 70 days pre-normal harvest (N.W. U.S. 14-70 days after full bloom)	60-70 days pre-normal harvest (N.W. U.S. 70-80 days after full bloom)
LOW	1-1 1/2 lbs/100 gal. (2)	DO NOT USE	DO NOT USE
MODERATE	1-1 1/2	3/4 - 1	3/4
GOOD TO HIGH (B)	1-1 1/2	1-1 1/2	1-1 1/2
VERY HIGH (B)	2	1-1 1/2	1-1 1/2
YOUNG, NON BEARING TREES (1)	1-2	1-1 1/2	1-1 1/2

Footnote:

- Maintenance of vigorous trees is essential to high yields. Annual pruning resulting in removal of weak wood, proper fertilization and other cultural practices which contribute to high tree vigor should be used. Use appropriate services when available to assist in determining degree of tree vigor.
- The dilution rate is based on average application of 400 gallons per acre. Higher dilution rates can be used if more than one application is made. Do not exceed the per acre recommended rate.

1. On Golden Delicious in Northwest, apply 10-14 days after full bloom at 2 lbs. per 100 gallons (8 lbs./acre).

5. Do not use more than 4 lbs. per acre in N.W. United States.

PEACHES:

To hasten ripening and concentrate maturity:

Mix at the rate of 1 to 2 pounds per 100 gallons of water. Apply 400 gallons per acre (4-8 pounds of SAD 85 per acre) on mature bearing trees, between style abscission (3 weeks post-bloom) and pit hardening.

Apply only one spray during each growing season.

Do not spray low vigor trees as fruit size reduction may occur.

Leaf injury may occur appearing as "Shot-holing" and possible leaf drop.

SWEET CHERRIES:

To hasten ripening:

Mix at the rate of 1 to 2 pounds per 100 gallons of water. Apply 400 gallons per acre (4-8 pounds of SAD 85 per acre) on mature bearing trees two weeks after full bloom.

Apply only one spray during each growing season.

Do not spray low vigor trees as fruit size reduction may occur.

GRAPES:

Concord Variety Only: To increase fruit set and yield. To reduce rate of vine growth.

Apply during the period from full bloom to full bloom at the following rates:

VINE GROWTH	ANNUAL PRUNING WEIGHT PER VINE (18 x 9" SPACING)	PER 100 GALLONS WATER	PER ACRE
LOW VIGOR	DO NOT USE		
MEDIUM VIGOR	ABOUT 2-3 LBS.	1-2	1-2



AGRICULTURAL CHEMICALS TRADE ORGANIZATION
1000 N. W. 10th St., Ft. Lauderdale, Fla. 33304