



I Have Assessed Grape Bud Damage, Now What?

- Over 75 % Primary Bud Damage → Hedge the vine and leave about 5-6 buds per cane. If you suspect severe damage but are not sure, wait with pruning until after budbreak. Let bud break occur and reassess
- Under 25% Primary Bud Damage → Prune Normally
- Between 25-75% Primary Bud Damage → Use the formulas below to adjust your pruning.

1. Determine Crop Potential

$$\text{Crop Potential} = \frac{\% \text{ of living primary buds} + (0.25 \times \% \text{ of living secondary buds})}{100}$$

Example: I have assessed bud damage and find that only 30% of my primary buds are living and 60% of my secondary buds are living.

$$\text{Crop Potential} = \frac{30 + (0.25 \times 60)}{100} = \frac{30 + 15}{100} = 0.45$$

2. Determine Adjusted Bud Number

$$\text{Adjusted Bud Number} = \frac{\text{the number of buds you normally leave per vine}}{\text{Crop Potential}}$$

Example: In most years, I leave about 24 buds/vine.

$$\text{Adjusted Bud Number} = 24/0.45 = 53$$

In the example above, I would leave 53 buds per vine. Keep in mind that it is better to leave to many buds than too few. You can always shoot and/or cluster thin later if necessary.

- If these calculations seem too daunting, then you may apply this simple rule of thumb:
 - Less than 25% bud damage: prune normally.
 - About 25% damage: Leave 50% more buds than usual.
 - About 50% damage: Leave twice as many buds as usual.
 - About 75% damage: Leave three times as many buds as usual.
 - More than 75% damage: Hedge and wait.

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Remember that vines can repair up to 100% bark (phloem) injury, but wood (xylem) injury will very often kill a vine. Such vines should be cut off a few inches above the ground and retrained from suckers. Make sure you train the suckers along the cordon wire, cut their tips, and use their laterals for next-year's spur positions.

Formula adapted from Wolfe, W. Vine and Vineyard Management Following Low Temperature Injury. Proceedings of the ASEV 50th Anniversary Annual Meeting, Seattle, Washington June 19-23, 2000.