



WILLIAM KRASKER

Freemark Abbey Winery (Abridged)

In September 1976 William Jaeger, a member of the partnership that owned Freemark Abbey Winery, had to make a decision: Should he harvest the Riesling grapes immediately, or leave them on the vines despite the approaching storm? A storm just before the harvest is usually detrimental, often ruining the crop. A warm, light rain, however, will sometimes cause a beneficial mold, *botrytis cinerea*, to form on the grape skins. The result is a luscious, complex sweet wine, highly valued by connoisseurs.

The Winery

Freemark Abbey was located in Napa Valley, California. The winery produced only premium wines from the best grape varieties. Of the 25,000 cases of wine bottled each year, most were Cabernet Sauvignon and Chardonnay. About 1,000 cases of Riesling were also bottled. (A case contains 12 bottles of wine.)

Winemaking

Wine is produced when fruit sugar, which is naturally present in the juice of grapes, ferments. The wine ages in barrels for one or more years until it is ready for bottling.

By various decisions during vinification – for example, the type of wooden barrel used for aging – the winemaker influences the style of wine produced. The style adopted by a particular winery depends mainly on the owners' preferences, though it is influenced by marketing considerations. Usually, as the grapes ripen, the sugar levels increase and the acidity levels decrease. The winemaker tries to harvest the grapes when they have achieved the proper balance of sugar and acidity for the style of wine sought. The ripening process is variable, however, and if the weather is not favorable, the proper balance might never occur.

Several different styles of Riesling (more accurately, Johannisberg Riesling) are on the market. A rare style results when almost-ripe Riesling grapes are attacked by the *botrytis* mold. The resulting wine is extraordinary and the *botrytis* itself adds to the wine's complexity. Freemark Abbey had already produced a *botrytised* Riesling from its 1973 vintage (see Exhibit 1).

Professor William Krasker prepared the original version of this case, Freemark Abbey Winery 181-027. This version was prepared jointly by Professors Frances X. Frei and Janice H. Hammond. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

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Jaeger's Decision Problem

From the weather reports, Jaeger concluded that there was a fifty-fifty chance that the rainstorm would hit the Napa Valley. Since the storm had originated over the warm waters of Mexico, he thought there was a 40% chance that, if the storm did strike, it would lead to the development of the *botrytis* mold. If the *botrytis* did not form, however, the rainwater would merely dilute the berries. This would yield a thin wine that would sell wholesale for only about \$2.00 per bottle, about \$0.85 less than Jaeger could obtain by harvesting the not-quite-ripe grapes immediately and eliminating the risk. Freemark Abbey always had the option of not bottling a wine that was not up to standards. It could sell the wine in bulk, or it could sell the grapes directly. These options would bring only half as much revenue as bottling and selling the wine wholesale, but would at least avoid damaging the winery's reputation, which would be risked by bottling an inferior product.

If Jaeger decided not to harvest the grapes immediately in anticipation of the storm, and the storm did not strike, Jaeger would probably leave the grapes to ripen more fully. With luck, the grapes would result in a good wine selling for around \$3.50 wholesale. Even with less favorable weather, the grapes would yield a light wine selling at around \$3.00. Jaeger thought these possibilities were equally likely. A third possibility was a dip in acidity that would produce a 'low acid' wine that would be priced at about \$2.50. Jaeger felt that this third possibility had roughly a 0.2 probability.

The wholesale price for a *botrytised* Riesling would be about \$8.00 per bottle. Unfortunately, the same process that resulted in this fine, sweet wine also caused a 30% reduction in the total juice. The higher price was therefore partly offset by a reduction in quantity. Although fewer bottles would be produced, there would be essentially no savings in vinification costs. The winery's vinification costs were about the same for each of the possible styles of wine and were small relative to the wholesale price.

Exhibit 1 Freemark Abbey 1973 Botrytised Wine Label

