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Betting on the weather? How Canadian;

To protect against warmer winters, a study suggests vintners could cushion their icewine crop with a well-placed wager

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In wine regions across the northern hemisphere, January is a time of relative calm. Fall's harvest is picked, fermented and resting in cellars, so winemakers can concentrate on less-frantic activities, such as blending prior vintages maturing in barrel and maybe catching up on some TV viewing, like Cashmere Mafia or some NFL playoff action. At many wineries in Canada, though, they're tuned to a different channel.

"I sit and watch The Weather Network and have my computer on," says Bruce Nicholson, senior winemaker at Inniskillin Niagara, taking a break last week after pressing the season's first batch of icewine grapes. "It's unlike a normal harvest, when you know you'll be picking in September and October. Now that the crop is frozen, there's that excitement and urgency to get it in."

The deep freeze that gripped much of Southern Ontario and British Columbia's Interior last week was welcome news to producers of Canada's famous dessert wine, the syrupy nectar with intensely sweet flavours of peach, apricot and berries, and electric acidity. Many have their fingers crossed for the best vintage in history, following ideal summer conditions and modest autumn rains.

"This year I'm particularly excited because I think it's going to be outstanding," Mr. Nicholson says.

But with the sharp swing back to milder temperatures in recent days, Mr. Nicholson and other major Ontario producers were suddenly forced to delay the remainder of the harvest.

That characteristic delay and uncertainty, combined with the soaring value and profitability of icewine, has prompted two Niagara-area business professors to devise a model for a sophisticated new form of financial protection called an "icewine weather derivative."

Remember Enron, the multibillion-dollar deck of cards blown apart by white-collar fraudsters? You may also faintly recall that the Texas energy company pioneered the use of so-called derivatives to hedge against warm weather in the heating-fuel business. Crazy cousins to more familiar financial securities such as stocks and bonds, weather derivatives enable buyers to place bets on a range of variables, notably temperature, snow and rainfall. Worried it's going to be a mild winter and you might not sell much oil or produce much icewine? No worries. You can insure yourself by rolling the dice with one of those deep-pocketed financial-services companies that earn money like casinos - taking wagers based on statistical probabilities.

According to a Brock University proposal authored by Don Cyr and Martin Kusy and soon to be published in the U.S. Journal of Wine Economics, an icewine producer could choose to bet, say, that there will be fewer than 70 hours of available icewine-picking weather next winter. (The average producer needs about 70 hours of -8 C or lower to pull in a full crop.) If warm weather happens, there's an automatic payout, no questions asked, based on the size of the shortfall in picking hours.

It may sound like any one of the wacky Super Bowl bets now being placed in Las Vegas (like the timing of Billy Joel's national anthem), but derivatives have survived Enron's cloud and blossomed into big business. Major banks and insurance companies have embraced the complex statistical models, and farmers and oil suppliers regularly rely on no-fuss derivatives in lieu of insurance.

In fact, they're almost identical to insurance policies, only the payout is automatic and depends only on official, local weather-station records; no need for filing a claim or proving an actual loss.

According to one scenario in the Brock model, if you were to buy a \$2,000 option, you would receive a payout of \$2,000 for every hour below 70 that picking temperatures were not achieved. In the warm winter of 2001-2002, for example, you would have received a \$62,496 payout.

The underlying message of the Brock derivatives model: Icewine has become hugely important to the domestic wine industry, which sees the highly exportable luxury as a gastronomic calling card and Trojan horse for future dry-table-wine exports.

"We've won top awards, so the value of that product has been increasing," says Dr. Cyr, associate dean in the business faculty at Brock in St. Catharines. The typical price range for a half-bottle of Vidal icewine is \$32 to \$40, with coveted rieslings and cabernet francs selling for as much as \$80. One estimate by Andrew Peller Ltd., which produces icewines under the Peller Estates and Hillebrand labels, among others, pegs the global retail value of Canadian icewine at about \$60-million.

"We're producing more and exports continue to grow, though quietly, because nobody talks about it," says Greg Berti, Andrew Peller's vice-president of estate wineries and global markets. He adds that Peller exports to 22 countries, and to 26 states in its biggest market, the United States. One place it has not been growing, ironically, is Ontario.

"They tend to give it as a gift," says Norm Beal, chairman of the Wine Council of Ontario and president of Peninsula Ridge Estates Winery in Beamsville, Ont., just east of Hamilton. "They don't consume it as much as we'd like them to."

Still, Mr. Beal, a former Connecticut-based oil trader, believes derivatives could be useful to larger icewine producers such as Inniskillin. If grapes can't be picked till late February or March, he says, producers can suffer significant losses. "The longer the grapes hang [on the vine], there's a greater chance of yield reduction because of fruit degradation and loss to birds."

Since their debut in the energy sector, weather-based derivatives have been tailored to all sorts of seasonally sensitive businesses, from golf and ski resorts to travel companies. Last week, thousands of Quebec travellers won free vacations from [itravel2000.com](http://itravel2000.com), an online retailer. The travel company promised vacationers a no-charge holiday for booking through its website if five inches (12.7 centimetres) of snow were to fall at one of four airports nearest them on New Year's Day. Montreal's Pierre Elliott Trudeau airport met the criterion with 14.8 centimetres. The offer was backed by WeatherBill, a San Francisco-based online company that sells weather derivatives.

David Friedberg, WeatherBill's co-founder and CEO, says icewine producers need not wait for a financial institution to adopt the elaborate derivatives model proposed by the Brock professors. A former executive with Google, Mr. Friedberg says WeatherBill's software is designed to calculate complex risks in any weather-dependent business, and that his company is happy to take your wager.

"They can go to [Weatherbill.com](http://Weatherbill.com), we'll immediately give them a price, and if they like the price, they can click on 'buy now,'" he says. "When the bad weather happens, our computers automatically print up a cheque and send it to the client or the buyer."

An astute wine aficionado might ask: Why icewine and not dry table wine, which is also subject to weather-related losses? When it comes to dry table wine, there are no official parameters for what determines a good season or bad. With icewine, the Vintners Quality Alliance, the wine authority in Ontario and British Columbia, requires that grapes be picked at temperatures below -8.

"Table wine doesn't face this regulation around temperature," Dr. Cyr says.

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Tasting notes

Henry of Pelham Riesling Icewine 2006

\$54.50 in Ontario (375 ml) Exceptionally complex, with flavours ranging from fresh peach and tropical fruit to baked apple supported by brisk acidity.

Inniskillin Vidal Icewine 2005

\$54.50 in Ontario (375 ml) Precision balance in this Niagara classic, swinging from super-sweet apricot and honey to mouthwatering crispness.

Strewn Vidal Icewine 2002

\$24.75 in Ontario (200 ml) Attractively evolved flavours in this five-year-old vintage, showing rich, sweet caramelized sugar, creaminess and impressive length.

Lakeview Cellars Vidal

Icewine 2006

\$19.80 in Ontario (200 ml)

Intense and syrupy, with pronounced notes of orange marmalade and poached peach and remarkably clean finish despite the thick texture.

Mission Hill S.L.C. Riesling Icewine 2004

\$79.30 in British Columbia

(375 ml) The 2005 vintage of this B.C. wine won gold at the Concours Mondial de Bruxelles competition, but this earlier vintage is no slouch, with bold apricot, honey and orange resolving into racy tanginess.