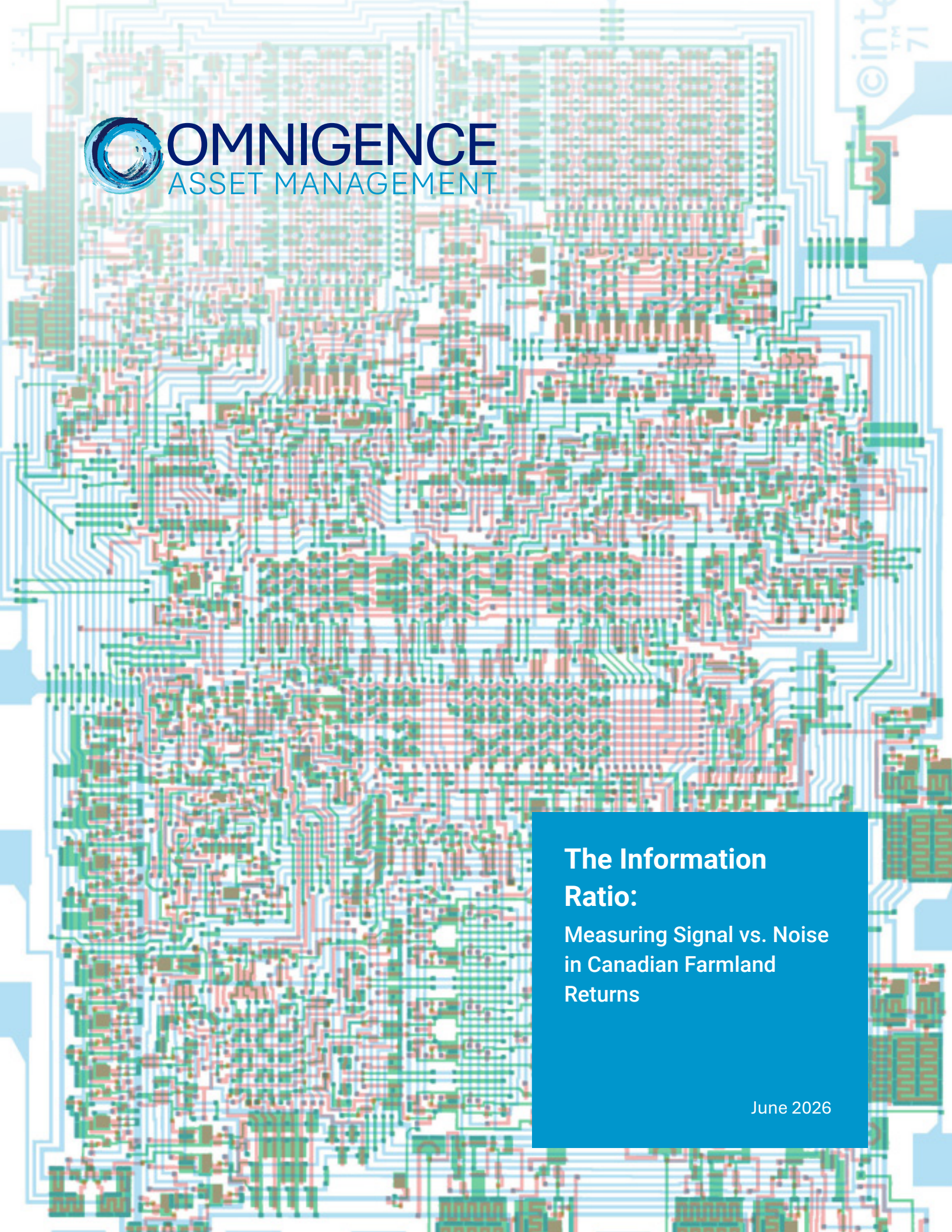


OMNIGENCE
ASSET MANAGEMENT

The Information Ratio:

Measuring Signal vs. Noise in Canadian Farmland Returns

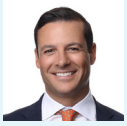
June 2026

INTRODUCTION:

Investors evaluating alternative assets face a fundamental question: is the return I am observing real, or is it noise? Raw return figures, while intuitive, tell an incomplete story. A fund generating 12% annually with extreme volatility delivers a fundamentally different investment experience than one generating 12% with minimal variance. The Information Ratio provides the analytical framework to distinguish between the two.

This paper applies the Information Ratio to Veripath Partners' quarterly fund returns from Q2 2008 through Q1 2026, a period spanning 72 consecutive quarters and encompassing the Global Financial Crisis, the post-GFC recovery, the COVID-19 shock, the 2021-2022 inflation surge, and the subsequent monetary tightening cycle. The results are presented against five benchmarks: Canadian CPI inflation, 91-day Treasury bills, the FTSE Canada Universe Bond Index, the S&P/TSX 60 equity index, and the S&P 500.

Stephen Johnston
Director
sjohnston@omnigenceam.com



Matt Barr
Director
mbarr@omnigenceam.com

Barclay Laughland
Director
blaughland@omnigenceam.com

WHAT IS THE INFORMATION RATIO?

The Information Ratio measures excess return per unit of tracking error relative to a chosen benchmark. Its formula is:

IR = (Portfolio Return − Benchmark Return) / Tracking Error, where Tracking Error = Standard Deviation of (Portfolio Return − Benchmark Return)

Key Findings:

- Information Ratios of 4.24 versus CPI, 5.29 versus T-bills, and 2.33 versus Canadian bonds (all $p < 0.001$)
- Sharpe Ratios range from 2.86 to 6.32
- Sortino Ratio undefined under a 6% MAR — no quarterly return fell below the hurdle.
- Near-zero correlation to equities (-0.10) and inflation (-0.14).

The Information Ratio is closely related to the t-statistic used in hypothesis testing. Specifically, IR × $\sqrt{n}$ approximates the t-statistic, where n is the number of observations. This means the IR can be interpreted in the language of statistical significance: a sufficiently high IR over a sufficient number of periods suggests that the observed excess return is unlikely to have occurred by chance.

Because appraisal-based return series exhibit serial correlation, the reported t-statistics may overstate the effective statistical independence of quarterly observations relative to liquid market benchmarks. The desmoothed volatility analysis presented later in this paper provides additional context around the impact of appraisal smoothing.

The following table presents interpretive thresholds for IR numbers:

Table 1: IR Interpretation Thresholds

IR Range	Interpretation	Statistical Analogy
Below 0.0	Underperforming benchmark on average	No signal
0.0 to 0.5	Positive but inconsistent excess return	Weak signal
0.5 to 1.0	Good risk-adjusted outperformance	Moderate signal
Above 1.0	Exceptional; outperformance exceeds its own volatility	Strong signal

HOW IR DIFFERS FROM THE SHARPE RATIO:

The Sharpe Ratio fixes the benchmark as the risk-free rate and uses total portfolio volatility in the denominator. The Information Ratio is more general: the investor selects the benchmark that corresponds to the question being asked. Using CPI as the benchmark answers "how reliably does this asset outperform inflation?" Using T-bills answers "how reliably does it outperform a risk-free alternative?" Using the S&P/TSX 60 answers "does the alpha justify the illiquidity premium relative to public equities?"

VERIPATH PARTNERS RETURN PROFILE:

The dataset comprises 72 quarterly gross returns from Q2 2008 through Q1 2026, representing 18 years of continuous fund operation. Veripath Partners manages a non-operated Canadian row crop farmland portfolio currently exceeding 141,000 acres, concentrated in Saskatchewan and Alberta. Quarterly valuations are based on independent third-party appraisal methodologies, incorporating realized transaction evidence where available. The following table contains the summary statistics used for the calculations:

Table 2: Summary Statistics (Veripath Partners summary statistics (Q2 2008 to Q1 2026, gross of fees)

Metric	Value
Observation period	Q2 2008 to Q1 2026 (72 quarters)
Mean quarterly total return (gross)	3.79%
Annualized total return (gross)	16.03%
Quarterly standard deviation	1.15%
Annualized volatility	2.31%
Minimum quarterly return	2.67%
Maximum quarterly return	5.87%
Negative quarters	0 of 72
Maximum Drawdown	0.00%
Cumulative growth (gross)	1,352%

As with many private real asset strategies, reported volatility may understate underlying economic volatility due to appraisal smoothing. Quarterly appraisals tend to lag market-clearing prices and compress measured variance. This effect is addressed quantitatively in the Complementary Risk Metrics section, which presents desmoothed and transaction-based volatility alternatives alongside the reported figures.

The reported quarterly series contains no negative observations across the 72-quarter period, producing a maximum drawdown of zero. This characteristic is consistent with the structural features of farmland as an asset class: a non-depreciating physical asset tied to the long-term production of essential agricultural commodities characterized by relatively inelastic demand and constrained supply. Readers should note that quarterly appraisal-based valuations may not fully reflect intra-quarter volatility that would be visible in a daily mark-to-market regime.

INFORMATION RATIO RESULTS:

Information Ratios of 4.24 against inflation and 5.29 against T-bills, with t-statistics of 18.0 and 22.4 respectively. Farmland outperformed CPI in 70 of 72 quarters and T-bills in all 72.

Table 3: IR Results versus Benchmarks (Q2 2008 to Q1 2026, gross quarterly returns)

Benchmark	Quarterly IR	Annualized IR	t-Statistic	p-Value
CPI (Statistics Canada)	2.12	4.24	18.0	< 0.001
91-Day T-Bills (Bank of Canada)	2.64	5.29	22.4	< 0.001
FTSE Canada Bond (XBB ETF)	1.16	2.33	9.9	< 0.001
S&P/TSX 60 (XIU ETF)	0.20	0.40	1.7	0.10
S&P 500 (SPY ETF)	0.09	0.18	0.8	> 0.10

Against inflation and fixed-income benchmarks, the annualized Information Ratios range from 2.33 to 5.29. An IR of 5.29 against T-bills indicates that for every unit of tracking error, the fund generated excess return substantially greater than the variability of that excess return. The t-statistics of 18.0 against CPI, 22.4 against T-bills, and 9.9 against Canadian bonds are all significant well beyond conventional thresholds ($p < 0.001$). Against CPI specifically, the fund outperformed inflation in 70

of 72 quarters. The two exceptions occurred during the peak of the 2022 inflation surge (Q1 and Q2 2022), when quarterly CPI reached 3.4% and 2.7% respectively.

Against Canadian equities (S&P/TSX 60), the annualized IR of 0.40 with a t-statistic of 1.7 is not statistically significant at conventional levels. Farmland's mean quarterly excess return over equities is positive (1.5% per quarter), but the quarterly tracking error is 7.6%, driven primarily by the volatility of the equity benchmark. In practical terms, farmland outperformed Canadian equities in 35 of 72 quarters. Against the S&P 500, the IR is 0.18 with a t-statistic of 0.8 and positive excess in 31 of 72 quarters. These results reflect the fundamental asymmetry between a low-volatility real asset and high-volatility public indices: the equity benchmarks introduce sufficient noise that 72 quarters of data is insufficient to establish statistical significance for the observed excess return.

This asymmetry may help explain farmland's diversification role in multi-asset portfolios: the asset has historically delivered equity-comparable reported returns with materially lower reported volatility. The IR framework highlights this by showing that the signal-to-noise ratio depends heavily on which benchmark defines the "noise." Against stable benchmarks (CPI, T-bills, bonds), the signal appears statistically strong. Against volatile benchmarks (equities), the higher volatility of public equity benchmarks materially increases tracking error, reducing the measured IR. This is the expected outcome for an asset that serves a diversification function rather than an equity-replacement role: the near-zero correlation to both indices (-0.10 to S&P/TSX 60, – 0.04 to S&P 500) means that farmland return behaviour carries limited information about equity market direction, and vice versa. The value of that independence is not captured by the IR framework, which measures signal relative to a benchmark – it is captured by the correlation structure presented in the following section.

COMPLEMENTARY RISK METRICS:

The table below presents risk-adjusted performance metrics as reported from the fund's quarterly return series. Because farmland returns are appraisal-based and can exhibit serial correlation, the measured quarterly volatility (1.15%) may understate true volatility. Two adjusted versions follow: one using a desmoothing methodology applied to the fund's own return series, and one substituting the 5.1% annual volatility observed in FCC national farmland transaction data.

The Sharpe Ratio measures excess return over the risk-free rate per unit of total portfolio volatility. It answers the question: how much return am I earning for each unit of risk taken? The Sortino Ratio refines this by replacing total volatility with downside deviation below a specified minimum acceptable return (MAR), penalizing only harmful volatility while ignoring upside variance. The Calmar Ratio divides annualized excess return by the maximum drawdown, measuring how much return an investor earns relative to the worst peak-to-trough loss experienced.

Table 4: Complementary Risk Metrics – Sharpe, Sortino, Calmar (Q2 2008 to Q1 2026, gross of fees)

Metric	Value	Interpretation
Annualized Volatility	2.31%	Measured from quarterly fund returns
Annualized Sharpe Ratio	6.32	Excess return per unit of total volatility
Sortino Ratio (6% MAR)	∞	No quarterly return below MAR
Maximum Drawdown	0.00%	No peak-to-trough loss in 72 quarters
Calmar Ratio	Undefined (∞)	No reported peak-to-trough decline

DESMOOTHED ADJUSTMENT (APPRAISAL SMOOTHING ONLY):

Quarterly appraisal-based returns exhibit serial correlation that compresses measured volatility. The academic literature (Geltner 1993) establishes a 1.5x adjustment as the conservative lower bound for quarterly appraisal-based real assets. This factor isolates the mechanical smoothing introduced by the appraisal process while preserving the legitimate low-volatility trend in the underlying return series. The variance ratio method yields a higher factor (2.2x), but this conflates two distinct sources of autocorrelation: appraisal smoothing and the appreciation trends embedded in the quarterly return series. The 1.5x adjustment corrects for the former without penalizing the latter.

Table 5: Desmoothed Volatility Adjustments		
Metric	As Reported	Desmoothed (1.5x)
Annualized Volatility	2.31%	3.46%
Sharpe Ratio	6.32	4.21
Sortino Ratio (6% MAR)	∞	∞
Maximum Drawdown	0.00%	0.00%

MARKET VOLATILITY BENCHMARK (FCC TRANSACTION DATA):

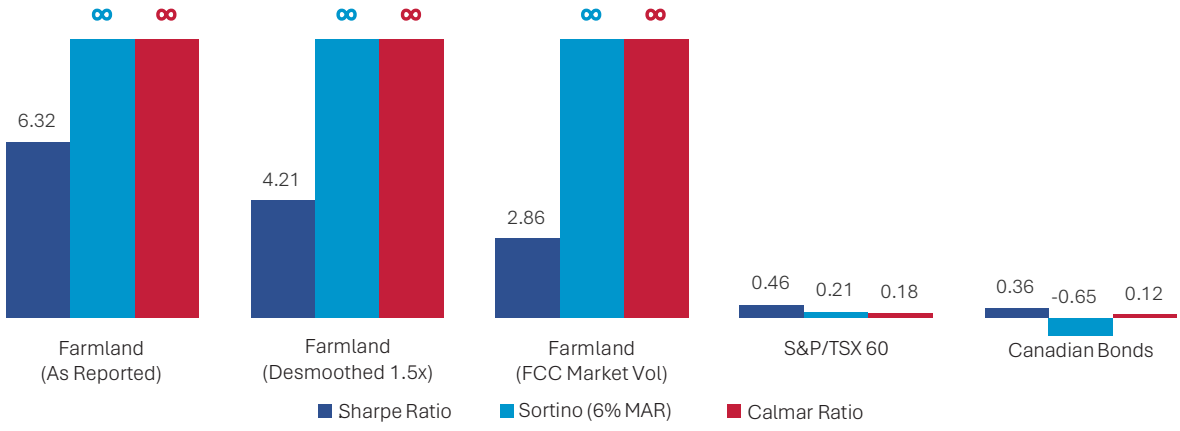
As an independent cross-check, we substitute the 5.1% annual volatility observed in Farm Credit Canada's national farmland transaction data over the 2008-2023 period. The FCC series is derived from actual arm's-length sales, not appraisals, and represents the broadest available measure of Canadian farmland price volatility.

This convergence is meaningful: the FCC transaction-based figure (5.1%) is nearly identical to the fund's variance-ratio-adjusted volatility (5.14%), providing independent corroboration from arm's-length sales data that the true economic volatility of the asset class falls in the range of approximately 3.5% to 5.1%. Two entirely separate methodologies – one derived from the fund's own return series, one from national transaction evidence – arrive at the same number.

Table 6: Market Volatility Adjustments		
Metric	As Reported	FCC Market Vol (5.1%)
Annualized Volatility	2.31%	5.10%
Sharpe Ratio	6.32	2.86
Sortino Ratio (6% MAR)	∞	∞
Maximum Drawdown	0.00%	0.00%

Under any volatility assumption, the Sharpe Ratio ranges from 2.86 to 6.32. The reported return series contains no peak-to-trough decline.

Chart 1: Risk Adjusted Performance versus S&P/TSX 60 and Bonds (Q2 2008 to Q1 2026).



The Sortino Ratio uses a 6% annualized minimum acceptable return (MAR), the equivalent of 1.47% per quarter. Because no quarterly return in the 72-quarter history fell below this threshold, the calculated Sortino Ratio is undefined (infinite) under the conventional formulation, regardless of the volatility assumption applied. The minimum quarterly return was 2.67% (equivalent to 11.1% annualized). While the absence of below-hurdle returns across a dataset spanning the GFC, COVID, and the 2022-2023 rate shock is notable, readers should consider that appraisal-based valuations may not fully capture intra-quarter

price movements that a mark-to-market regime would reveal. The reported maximum drawdown of zero reflects the same characteristic of the quarterly return series.

CORRELATION STRUCTURE:

Veripath's returns exhibit negative or near-zero correlation with every benchmark except Canadian bonds (0.16). The negative correlation with T-bills (-0.30) is notable: as the Bank of Canada raised short-term rates during 2022-2023, farmland's quarterly returns remained in the 2.7% to 3.0% range while cash returns rose from near zero to above 1% per quarter. The correlations with CPI (-0.14) and the S&P/TSX 60 (-0.10) are close to zero, suggesting that farmland return behaviour carries limited information about either inflation dynamics or equity market direction.

Table 7: Quarterly Returns Correlations (Q2 2008 to Q1 2026)

Benchmark	Correlation
CPI (Statistics Canada)	-0.14
91-Day T-Bills (Bank of Canada)	-0.30
S&P/TSX 60 (XIU ETF)	-0.10
S&P 500 (SPY ETF)	-0.04
FTSE Canada Universe Bond (XBB ETF)	0.16

These near-zero correlations are the structural foundation of farmland's portfolio construction value. An asset that delivers consistent positive returns with no meaningful correlation to existing portfolio holdings improves the efficient frontier through diversification, independent of its standalone return level.

CONCLUSION:

The Information Ratio provides a statistically grounded framework for evaluating whether observed excess returns reflect a persistent pattern or random variation. Applied to Veripath Partners' 72-quarter return history, the results suggest a persistent and statistically significant pattern of excess return across multiple benchmarks:

- Inflation (CPI) – the fund's annualized IR of 4.24 with a t-statistic of 18.0 is consistent with a persistent pattern of excess return over inflation.
- Risk-free rates (T-bills) – the IR of 5.29 with a t-statistic of 22.4 provides further statistical support.
- Canadian bonds – the IR of 2.33 with a t-statistic of 9.9 suggests that farmland's observed return premium over fixed income has been both positive and consistent over the measurement period.
- Public equities – the IRs of 0.40 (S&P/TSX 60) and 0.18 (S&P 500) are not statistically significant at the quarterly frequency, reflecting the high volatility of the equity benchmarks rather than the absence of excess return.

These results hold under multiple volatility assumptions, with a Sharpe Ratio ranging from 2.86 (FCC market volatility) to 4.21 (desmoothed) to 6.32 (as reported). Because no quarterly return fell below the 6% annualized MAR, the Sortino Ratio is undefined under conventional formulation. The reported series contains no negative quarters, the fund outperformed CPI in 70 of 72 quarters, and outperformed T-bills in all 72. The historical evidence suggests that the observed excess returns are unlikely to be attributable solely to random chance.

OMNIGENCE
ASSET MANAGEMENT

Toronto Office:
TD Canada Trust Tower, 161 Bay St.
27th Floor, P.O. Box 508
Toronto, ON, M5J 2S1
Calgary Office:
Suite 300, 4954 Richard Road SW
Calgary, AB, T3E 6L1
Montréal Office:
3 Place Ville Marie, Suite 3190
Montréal, QC H3B 2E3
www.omnigenceam.com

SOURCES AND METHODOLOGY:

Fund returns are gross quarterly returns provided by Veripath Partners. CPI benchmark returns are computed from actual monthly Consumer Price Index values published by Statistics Canada (base year 2002=100), using quarter-end month index levels to derive quarterly percentage changes. Treasury bill benchmark returns are derived from Bank of Canada 3-month T-bill composite yields, converted to quarterly holding period returns. S&P/TSX 60 equity benchmark returns are computed from quarter-end NAV per share values of the iShares S&P/TSX 60 Index ETF (XIU), sourced from BlackRock Canada. FTSE Canada Universe Bond benchmark returns are computed from quarter-end NAV per share values of the iShares Core Canadian Universe Bond Index ETF (XBB), sourced from BlackRock Canada. S&P 500 benchmark returns are computed from quarter-end closing prices of the SPDR S&P 500 ETF (SPY), with quarterly dividend yields derived from Robert Shiller's dataset (Yale University, 2008-2018) and published SPY distribution data (2019-2026) added to approximate total returns.