FIREWATER
NITROGEN


CROP


DATA

WHAT IS FIREWATER?

Our machines produce a nitrogen and energy-rich, highly powerful product unlike any other. By combining N2 extracted from the atmosphere with pure water charged by lightning, we create a unique and powerful effect that sets this product apart from all other systems or processes.

Our cutting-edge technology has been engineered to efficiently generate this product as a competitive, on-farm nitrogen source. The purpose of this introductory guide is to help you understand how to use the product effectively and how it performs in various applications.

CAN FIREWATER BE A FULL NITROGEN REPLACEMENT?

Firewater's greatest benefit is the concentration of nitrate (NO_3-) in the product. This gives the crop a boost of essential plant-available nitrogen for vegetative and reproductive growth for maximum yields and efficiency.

One of the many advantages Firewater has over traditional nitrogen fertilizers is the zero-salt content, preserving soil and plant health. This allows growers to retain regenerative and natural practices while not sacrificing the yield advantage of traditional nitrogen fertilizer programs. The difference is not only the sustainable nature of our product, harmoniously working with, and not against your soil, it's the attractive price advantage of producing your own units.

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CORN TRIAL

Illinois, USA

A Midwest trial was done on Illinois's rich soil, comparing the effects of Firewater vs traditional UAN 32. Many different rates were applied to explore the application rates and validity of the product.

- **No fertilizer:**
Yield was 10.7 t/ha.

- **UAN-32%** (81.6 kg N applied in-furrow/side-dressed):
Yield increased significantly to 16.8 t/ha.

- **Firewater product** (various application rates, foliar/side-dressed):
  - 110 L → 14.7 t/ha
  - 197 L → 15.3 t/ha
  - 231 L → 15.7 t/ha
  - 265 L → 15.9 t/ha
  - 303 L → 16.5 t/ha
  - 330 L → 17.6 t/ha
  - 333 L → 18.0 t/ha

Key takeaway: Firewater consistently improved yields, with higher application rates meeting or exceeding yields achieved with UAN-32%.

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CORN TRIAL

Kansas, USA

Dry land Kansas grower decides to increase sustainability using Firewater as an entire nitrogen replacement with his drones. The side by side comparison was his typical program, consisting of 61.23kgs of N using UAN 28 vs product from his Firewater machine that only cost him a few cents per liter to produce. Although he had to change his application methods, the outcome surpassed his regular program, not only in yield, but also in profit.

- **UAN-28%** (151 kg N applied banded on):
  Yield was 8.62 t/ha.

- **Firewater + Amino Acid** (815 L Firewater, applied foliar + 9 L Amino Acid per hectare):
  Yield was 8.87 t/ha.

Key takeaway: Firewater outperformed his traditional program by .25 t/ha, while only costing about $3.50 USD to produce. The product was applied multiple times in smaller increments via drone to achieve the desired 815 L/ha. Grower notes that the soil biology and mineral-availability was seen much higher after Firewater was applied.

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CORN TRIAL

Pennsylvania, USA

A conventional corn grower in southeast Pennsylvania decided to take a bold step toward sustainability by fully replacing his nitrogen fertilizer program with Firewater™. With commodity prices under pressure, reducing input costs was crucial to maintaining farm profitability and continuing his family legacy. To test performance, he compared his standard 27-0-0-3 program with a Firewater-only program.

- **27-0-0-3** (179 kg N/ha applied 2X2 and in-furrow): Yield was 15.68 t/ha.

- **Firewater** (391 L/ha total: 56 L/ha in-furrow + 935 L/ha foliar collectively in 4 different applications): Yield was 15.31 t/ha.

Key takeaway: Although there was a slight reduction in yield with the Firewater program, the grower achieved major savings by eliminating the purchase of costly UAN fertilizer — all while maintaining a comparable yield. This shift not only improved soil and plant health but also provided something even more valuable: freedom from rising input costs, a stronger farming legacy, and long-term sustainability for future generations.

CORN TRIAL

FIREWATER

North Dakota, USA

A field comparison was conducted in Arthur, North Dakota, to evaluate the performance of Firewater against a conventional UAN-32% nitrogen program. Both treatments were applied to corn under similar growing conditions, with the goal of comparing nitrogen efficiency and yield response.

- **UAN-32%** (22.7 kg N applied side-dressed): Yield was 13.1 t/ha.

- **Firewater** (187 L/ha applied foliar at V6): Yield was 13.1 t/ha.

Key takeaway: One simple foliar application of Firewater completely replaced a side-dressed application of UAN. The difference was paying commodity prices to achieve 13.1 t/ha vs simply making their own nitrogen which surpassed their traditional trial profitability

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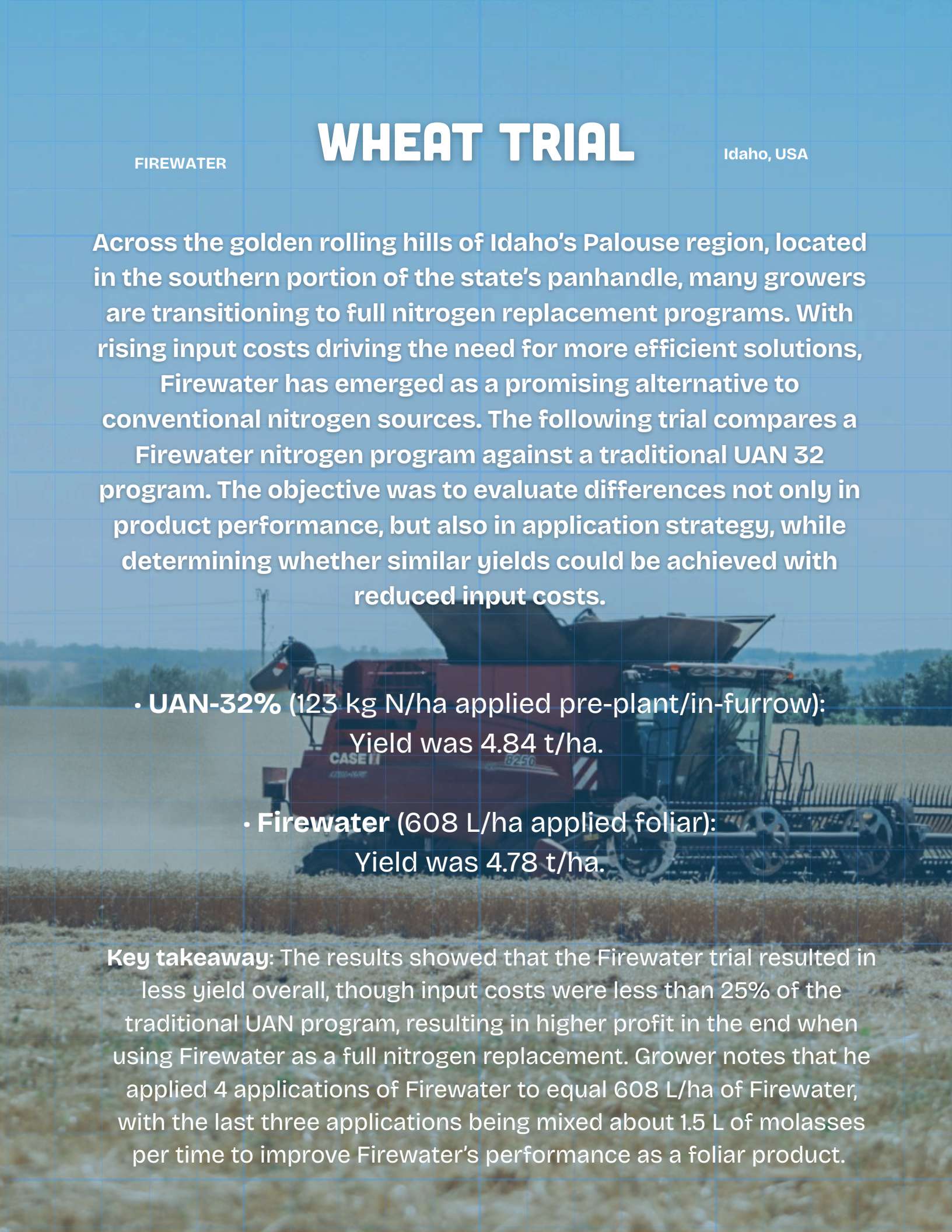
WHEAT TRIAL

Idaho, USA

Across the golden rolling hills of Idaho's Palouse region, located in the southern portion of the state's panhandle, many growers are transitioning to full nitrogen replacement programs. With rising input costs driving the need for more efficient solutions, Firewater has emerged as a promising alternative to conventional nitrogen sources. The following trial compares a Firewater nitrogen program against a traditional UAN 32 program. The objective was to evaluate differences not only in product performance, but also in application strategy, while determining whether similar yields could be achieved with reduced input costs.



- **UAN-32%** (123 kg N/ha applied pre-plant/in-furrow): Yield was 4.84 t/ha.

- **Firewater** (608 L/ha applied foliar): Yield was 4.78 t/ha.

Key takeaway: The results showed that the Firewater trial resulted in less yield overall, though input costs were less than 25% of the traditional UAN program, resulting in higher profit in the end when using Firewater as a full nitrogen replacement. Grower notes that he applied 4 applications of Firewater to equal 608 L/ha of Firewater, with the last three applications being mixed about 1.5 L of molasses per time to improve Firewater's performance as a foliar product.

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POTATO TRIAL

Washington, USA

Another trial was done on the Evergreen State's rich farmland, where multiple applications were done to better understand the effects of Firewater. These irrigated russets responded very well to the energy-rich Firewater—let's see the results.

- **No fertilizer:** Yield was 26.9 t/ha.

- **UAN-28%** (336 kg N/ha side-dressed): Yield was 57.8 t/ha.

- **Firewater** (281 L side-dressed / 935 L foliar per ha): Yield was 60.4 t/ha.

- **Firewater** (1,496 L/ha foliar): Yield was 62.7 t/ha.

Key takeaway: Both profitability and yield significantly exceeded those of the UAN and no-fertilizer trials, demonstrating Firewater's clear advantage over conventional nitrogen sources. This strong performance is likely attributed to the highly plant-available nature of Firewater's nitrogen form.

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POTATO TRIAL

Washington, USA

A trial was conducted on the Columbia Plateau in Eastern Washington State, where growers evaluated Firewater as a complete nitrogen replacement to validate the performance of this promising technology. Their standard fertility program used calcium nitrate applied through pivot irrigation, making Firewater an easy and compatible alternative in terms of application and management.

- **Calcium-nitrate** (113.4 kg N/ha applied foliar): Yield was 53.72 t/ha.

- **Firewater** (492 L/ha applied foliar): Yield was 58.33 t/ha.

Firewater outperformed their traditional nitrogen source by 4.6 t/ha and cost less than

- **Firewater** (281 L side-dressed / 935 L foliar per ha): Yield was 60.4 t/ha.

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CAN FIREWATER BE USED AS NITROGEN SUPPLEMENT?

In addition to its proven ability to replace synthetic nitrogen, Firewater also performs exceptionally well as a yield-enhancing nitrogen supplement. Its salt-free formulation makes it gentle on crops and easy to apply, whether used as a foliar feed or as a carrier for pesticides and fungicides.

By simply adding Firewater to an existing fertility or crop protection program, growers can quickly see the product's benefits in both plant health and yield performance. Some operations choose to replace a portion of their conventional nitrogen to reduce input costs, while others apply Firewater on top of their full program to capture additional yield gains.

This flexibility allows every grower to experience the advantages of Firewater in a way that best fits their operation—whether the goal is to save on nitrogen, increase efficiency, or push for maximum yield.

***use caution when mixing Firewater with any chemical**.

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CORN TRIAL

Manitoba, Canada

Manitoba growers are showing great demonstrations on yield increases with Firewater when added later on in the season to their regular programs. A side-by-side comparison was conducted to determine the effects of adding the product later in the season with a high boy tractor in hopes to see a stronger yield in a time of low commodity prices.

- **UAN-28%** (140 kg N/ha side-dressed): Yield was 12.54 t/ha.

- **UAN-28%** (140 kg N/ha side-dressed + 185 L/ha of Firewater @ VT): Yield was 14.54 t/ha.

Key takeaway: The trial shows strong yield boosts when Firewater is added during the corn's tasseling timeframe, as the corm switches from vegetative growth to reproductive growth, filling the ears with grain. This is a simple way to increase yields without having to change your program drastically.

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CORN TRIAL

Ontario, Canada

A 2024 corn trial conducted in Ontario once again proved the consistent performance advantage of Firewater when used alongside a traditional fertility and fungicide program.

Both plots received the same NPK program and identical fungicide applications on July 27, 2024. **The only difference was the carrier** — the standard plot used **plain water,** while the comparison plot used **20 gallons of Firewater** as the fungicide carrier.

The results were clear:
The traditional program yielded 267 bushels per acre, while the Firewater-treated plot achieved 282 bushels per acre, **a gain of 15 bushels per acre — a 5.6% yield improvement.**

This increase reflects Firewater's unique ability to enhance nutrient mobility and improve plant health during critical reproductive stages. By strengthening nutrient exchange and optimizing canopy performance, Firewater helps crops maintain photosynthetic activity longer, resulting in stronger kernel development and higher final yield.

These findings align with numerous on-farm results across the region, all pointing to the same conclusion: Firewater consistently improves efficiency and boosts yield potential without requiring any change to existing agronomic programs.

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WHEAT TRIAL

Saskatchewan, Canada

A comparative wheat trial was conducted in Saskatchewan, Canada, to evaluate the performance of Firewater against a traditional nitrogen fertilizer program. The trial used Hodge wheat as the test crop.

- **Urea** (124 kg N pre-plant/45 kg N in-furrow per hectare): Yield was 4.70 t/ha.

- **Firewater + Urea** (45 kg N/ha + 375 L Firewater foliar per hectare):
Yield was 5 t/ha.

Key takeaway: This trial showed how 375 liters of Firewater effortlessly replaced and outperformed 124 kilograms of nitrogen from urea, in only one singular foliar application. Whether you're looking to replace your entire nitrogen program or simply substitute, Firewater can be easily added to your wheat crop.