Seasonal Tokens

LITE PAPER

Contents

Predictable Price Rises

Four tokens - Spring, Summer, Autumn and Winter - have been designed to increase in price in a predictable sequence that repeats. Spring will tend to go up in price, then Summer, then Autumn, then Winter, then Spring again.

Designed for Investment

A good investment will rise in value after you buy it and before you sell it. Knowing when to buy and sell is the hard part of investing. The Seasonal Tokens make it easy. The token that's going to rise in price next can be bought, and then traded for the next token in the cycle after the price has risen.

By participating in the cyclical trade of the tokens, an investor can continually increase the total number of tokens that he or she owns over time.

Designed for the Long Term

Unlike short-term pump-and-dumps driven by crowd behavior, the seasonal tokens are designed to rise in price over the course of many months, driven by long-term changes in supply and demand. Reduced supply and increased demand for each token are allowed to affect the market for nine months, putting sustained upward pressure on the price, after which the next token in the cycle goes through the same process.

Seasonal Supply and Demand

The tokens are produced by mining, and can be used for farming. The relative supply of the four tokens is controlled by mining, and the farm creates demand for the tokens in specific proportions. The rules of farming and mining have been arranged so that each token will face a combination of higher demand and lower supply over the period when its price is intended to rise.

When a token is "in season", it's produced at the fastest rate of the four, and when it goes out of season, it's produced at the slowest rate. Four months after a token goes out of season, the demand from farming increases. The farm switches from paying out the least for that token to paying out the most.

The Farm

Providing liquidity consists of providing ETH and tokens to Uniswap and allowing traders to use those tokens and ETH for trading. It's important to have plentiful liquidity available so that traders can complete their trades. The farm incentivizes this by paying tokens to liquidity providers for as long as they leave the liquidity in place.

9% of the tokens mined by the mining pool are distributed to farmers. If there's only one farmer, that farmer gets all of those tokens, even if the amount of liquidity provided is very small. This means that, when not much liquidity is present, farming can bring in a lot of tokens without the need to invest much money.

Halving the Supply and Doubling the Demand

Every nine months, the rate of production of one of the tokens gets cut in half. This causes a scarcity of that token to accumulate over time that will eventually disrupt the previous equilibrium between supply and demand.

Then the farm increases the demand for that token. Four months after the supply of Spring tokens is cut in half, the farm will switch its payouts and almost double the payout it gives to farmers who provide liquidity for Spring. Then farmers will switch their liquidity from other tokens to Spring to reap the greater rewards. They'll need to buy Spring tokens to do that. Spring tokens will be in demand.

The Tokens are Running Out

With the rate of production of each token halving every three years, the tokens will become increasingly hard to obtain in the future. In thirty years, tokens will be generated at less than one thousandth of the current rate. There will be only about 33 million tokens of each type produced in total.

Stripping Away Illusions

Right now, the tokens are produced by mining at the fastest rate they will ever be. The cost of production is lower than it will ever be. In the current market conditions, tokens are cheap and easy to obtain, and this will be reflected in the price. This produces an illusion of abundance as the market prices the tokens based on today's rate of supply and cost of production.

Season by season, the apparent abundance of the tokens will give way to the reality that the tokens are limited in supply and are running out. One token out of the four will always be produced at the fastest rate, and the least valuable for farming, and will appear to be abundant, but this is an illusion that will disappear after a number of months, when that token becomes the hardest to produce, and the most valuable for farming.

What can the tokens be used for?

Cyclical trading

By holding Spring tokens while they go up in price, and then trading them for Summer tokens, and holding them while their price rises, and so on, an investor can always hold a token whose price is rising, and can increase the number of tokens they own over time.

Farming

An investor with Spring tokens, for example, can use them to provide liquidity and then stake that liquidity position in the farm. That investor will then receive Spring, Summer, Autumn and Winter tokens for as long as the liquidity is left in place. 9% of newly-mined tokens are distributed from the Seasonal Token mining pool to the farm.

Donating to the farm

When tokens are donated to the farm on a regular basis, it makes the tokens more valuable, because tokens used for farming produce higher yields. The farm also contributes to the rotating demand for the tokens that makes it profitable to trade them in a cycle. So the tokens can be expended to support their price and drive rotating demand. Miners have a financial incentive to increase the value of the tokens they mine, and they can do this by donating a fraction of their incoming tokens to the farm.

The Tokens Become Increasingly Useful Over Time

Even though the tokens become harder to obtain over time, holders of the tokens can use them to acquire more, by farming and cyclical trading. As the tokens become more expensive to mine and buy, the ability to get more tokens over time without buying or mining them becomes more and more useful.

Farmers Provide Liquidity for Cyclical Traders

At a time when everybody knows that Spring tokens should be traded for Summer tokens, traders need to be able to sell Spring tokens to someone and buy Summer tokens from someone. Other cyclical traders may be unwilling to buy Spring and sell Summer when they know that Summer is going to rise in price next.

The farmers who provide the liquidity to the token/ETH trading pairs on Uniswap act as counterparties for the cyclical traders. Because the farmers receive farm income, they can make a net profit even if they miss out on some or all of the potential profits of cyclical trading.

Two Types of Farmers: Investors and Miners

Investors

Investors start off with ETH but no seasonal tokens. To start farming, an investor trades about half of the ETH allocated for farming to get seasonal tokens, and then provides liquidity at Uniswap using the ETH and the tokens. The investor can then deposit the Uniswap liquidity position into the farm, and start receiving farm income.

Miners

Miners initially have tokens but no ETH. A miner provides liquidity by selling about half of the tokens allocated for farming in exchange for ETH, and then uses the ETH and the remaining tokens to provide liquidity at Uniswap, which can then be deposited into the farm.

Seasonal Mining Supply

Miners earn rewards of newly-mined tokens every ten minutes on average. The number of tokens per reward are shown in the table below.

	Spring	Summer	Autumn	Winter
September 2021	168	140	120	105
June 2022	84	140	120	105
March 2023	84	70	120	105
December 2023	84	70	60	105
September 2024	84	70	60	52.5

Mining started on the 5th of September, 2021. Spring tokens are in season. Nine months later, the size of the Spring reward drops to 84 tokens. Spring tokens will go out of season and become harder to acquire over time.

Summer tokens are then produced at the fastest rate for nine months, after which the Summer reward halves to 70 tokens. Autumn tokens will then be in season until the Autumn reward drops to 60 tokens. After that, the Winter reward of 105 tokens will be the largest of the four, until the Winter halving occurs and the Winter reward drops to 52.5 tokens.

When the Winter tokens go out of season, Spring will once again be the token produced at the fastest rate, and Spring tokens will be in season once again.

Seasonal Farming Demand

The farm pays out rewards to liquidity providers for the token/ETH trading pairs in a ratio that changes every 9 months. Initially, the ratio is 5:6:7:8 for Spring, Summer, Autumn and Winter. Before October 2022, the farm will pay out the most rewards to Winter/ETH liquidity providers.

After that, the ratio changes to 10:6:7:8, and the largest farm rewards will be paid to Spring/ETH providers. The proportions of farm income allocated to the four trading pairs are shown in the table below.

	Spring	Summer	Autumn	Winter
January 2022	5	6	7	8
October 2022	10	6	7	8
July 2023	10	12	7	8
April 2024	10	12	14	8
January 2025	5	6	7	8

Cyclical Trading Rules of Thumb

Which token is the best one to buy? It depends on the relative prices of the tokens. Before the Spring halving, there will be 168 Spring tokens mined for every 140 Summer tokens. Based on the supply alone, we would expect the Spring/Summer price to tend towards 140/168 = 5/6.

After the halving, there will be 84 Spring tokens for every 140 Summer tokens mined, and we can expect the price to drift towards 140/84 = 5/3. It may not reach this price before the Summer halving occurs, or it may reach it early due to a combination of farming and speculative demand.

If the Spring/Summer price reaches 5/3, it would be wise to trade Spring tokens for Summer tokens, because getting 5 Summer tokens for 3 Spring tokens is the best deal a trader can expect to get based on the relative supply of the tokens.

The table below shows the prices at which a cyclical trader would make the corresponding trades, using the relative rates of production as estimators of expected prices:

Spring/Summer Price > 5/3	Trade Spring for Summer
Summer/Autumn Price > 12/7	Trade Summer for Autumn
Autumn/Winter Price > 7/4	Trade Autumn for Winter
Winter/Spring Price > 8/5	Trade Winter for Spring

A trader who starts with 1 Spring token and trades at these prices would end up, after one cycle, with 5/3 * 12/7 * 7/4 * 8/5 = 8 Spring tokens.

Price Stabilization

Cyclical trading produces a stabilizing effect on the prices of the tokens. If the Spring/Summer price goes above 5/3, traders will sell Spring and buy Summer tokens, pushing the Spring/Summer price back down. If the Spring price drops too far, traders will exchange Winter tokens for Spring tokens, pushing it back up.

This provides a market mechanism for automatically correcting irrational price movements caused by excessive speculation or pump-and-dump schemes. Whenever excessive price volatility brings the relative prices of the tokens beyond their natural bounds, cyclical traders get an opportunity to profit, and by doing so, they push the prices back to rational levels.

Market manipulators who try to pump and dump one of the tokens will not be able to generate the large movements in price necessary for such a scheme to succeed. They will only manage to enrich cyclical traders.

Disclaimer

This lite paper provides an introduction to the Seasonal Tokens and an overview of the mining, farming, and cyclical trading features of the tokens. Nothing in this paper should be interpreted as investment advice, a promise of any kind, or a guarantee of future prices. The authors will not be responsible for losses incurred by anybody using the tokens.