agrotoken

# White paper

2020

Complementary document: White paper Proof of Grain Reserve 2022

ENGLISH

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# Introduction to Agrotoken

## 1. INTRODUCTION TO AGROTOKEN

Agrotoken stands as the first grain tokenization platform and the gateway for Agrobusiness into the world of the crypto economy.

Our goal is to generate a new financial asset through the creation of stablecoins backed by real assets: Grains and Food.

There will always be a need for food, there will always be a stock of food, and stablecoins based on agricultural commodities will be the most reliable and transparent in the system.

Agrotoken is a world-scale platform, divided into different stages that ensure in each one the fulfillment of objectives focused on product, technology, liquidity. The evolution of Agrotoken outlines alliances with Oracles and references of the crypto ecosystem, tokenization of different types of grains and improvements in the protocols, among other functions, necessary for the growth of the platform.

In the first stage, the tokenization of grains begins with the first chosen crop: soybeans in Argentina, Brazil and Paraguay. The second stage comprises the addition of corn and wheat, extending the tokenization process to the United States and Uruguay.

The aforementioned countries cover more than 80% of the world soybean production, using as Oracles, guarantors of the PoGR (Proof of grain reserves) to the main references (Exporters and Collectors) of the world market, complying in each of the local markets with the corresponding processes and regulations.

The use of these stablecoins based on real assets will contribute not only to create new and better opportunities in the world of Agribusiness, but overall will also grow the Blockchain ecosystem and decentralized finance (DeFi).

Welcome to Agrotoken.

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# Underlying assets for stablecoins

2. UNDERLYING ASSETS FOR STABLECOINS

## Advantages of collateralizing with commodities vs. collateralizing with Fiat money

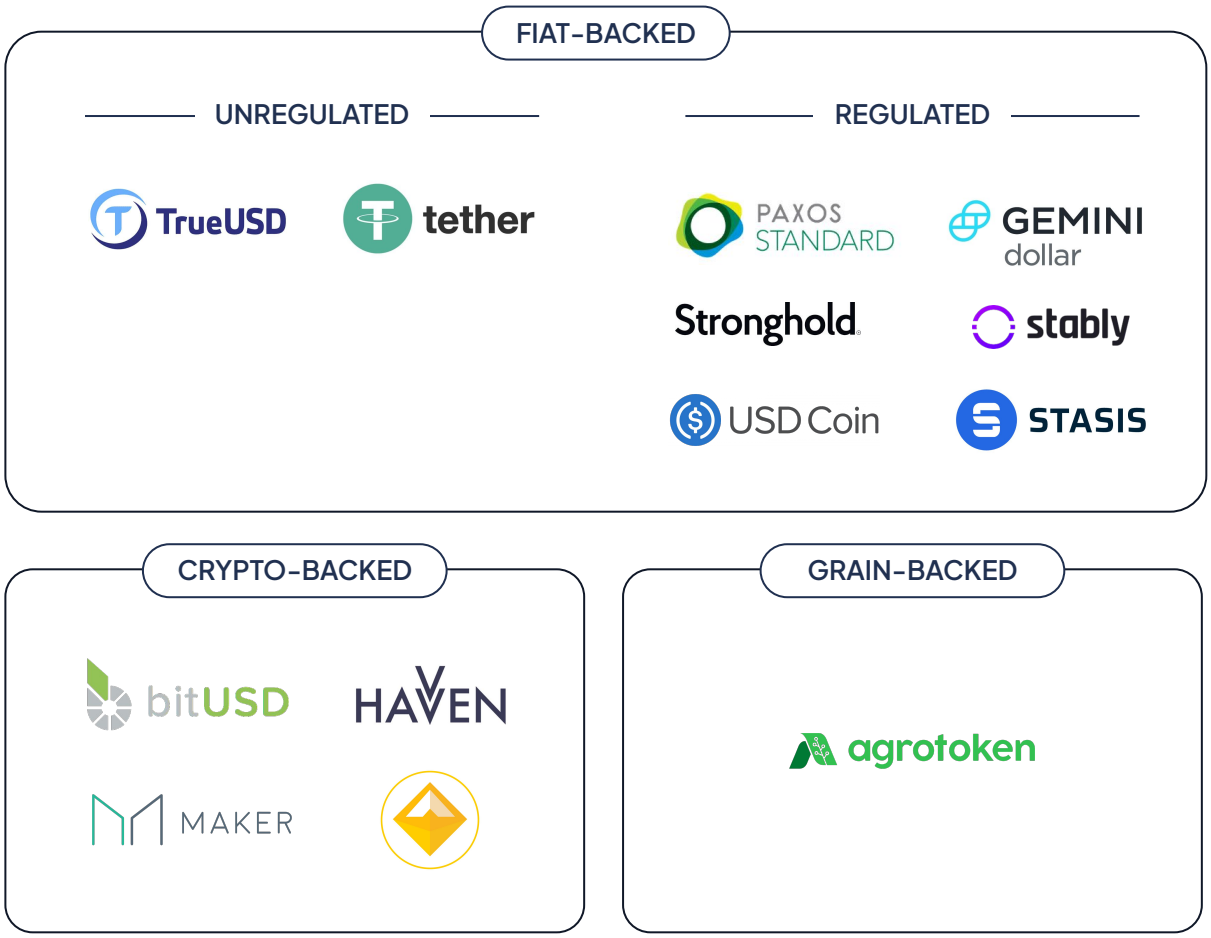
The creation of stablecoins opens a new world in the crypto economy ecosystem, since this type of cryptoasset allows to minimize price volatility (unlike Bitcoin), and in this way allow an unlimited number of financial services to be developed.

There are different types of stablecoins, which use different collateralization mechanisms to maintain price stability.

Some are tied to fiat currencies, others to commodities (mainly precious metals like gold or silver).

There are Stablecoins that use other cryptocurrencies as collateral (on chain), they can be linked to some type of decentralized autonomous organization (DAO), which algorithmically controls the value of the Stablecoin, such is the example of DAI.

In our case, we are going to compare 2 types of stablecoins, the Fiat-backed stablecoin based on fiat currency (usdc, tether, etc.) and the grain-backed stablecoin based on commodities (Agrotoken).



2. UNDERLYING ASSETS FOR STABLECOINS

## Stablecoins with collateral in Fiat money (fiat-backed)

Stablecoins based on fiat currency are the simplest to understand. This type of stablecoin maintains a 1:1 relationship with the fiat currency (usd, euro, etc.) and is also backed 1:1 with fiat money.

Although volatility is practically zero, collateralization by depositing fiat money in bank accounts requires a high level of centralization, because you have to trust the organization that protects those deposits.

Some projects, such as Facebook's Diem, try to create an additional level of trust, transferring the trust already generated among the users of the companies that participate in the consortium.

This type of centralized systems has correlated risks and vulnerabilities, the main one is that the collateral must be deposited in Banks, which are entities that by nature, are not very friendly with the cryptocurrency ecosystem, are highly regulated by governments and the Central Banks.

All these factors go against the principles of crypto economics: decentralization.

On the other hand, it is difficult to verify that the money deposited, or financial instruments in the form of treasury bonds, stocks, or any other type, are not subject to manipulation or riskier applications.

Being such a centralized system, it requires an external audit to verify that there is collateral in money equivalent to the circulating stablecoins. This can be quite an expensive process, and on the other hand, the external audit only monitors a certain moment and it is difficult to control what happens in-between time gaps of the reporting of such audit.

Despite all these disadvantages, the use of these stablecoins allows a very stable and easily understood cryptocurrency for any User.

Finally, stablecoins based on fiat currency are subject to external factors linked to geopolitics and the regulations of each country and each government in office.

**Based on all these premises, we can conclude that stablecoins collateralized with fiat money are:**

**100% stable in price** (except for external factors).

**Simple to understand, adopt and use.**

**Safe,** as the collateral cannot be violated because it is not online in the network

**As a downside, we can consider them to be:**

**Highly centralized,** they need Banks to guard the money.

Liquidation of assets can be **time consuming and expensive.**

**Highly regulated** in correlation to the underlying asset

They need **ongoing audits** to ensure transparency.

2. UNDERLYING ASSETS FOR STABLECOINS

## Stablecoins with collateral in agricultural commodities (Agrotoken)

Generally, it is frequently related to gold as a store of value since it maintains that characteristic over time in relation to other assets.

This is the reason why many investors shelter in gold during periods of recession where most other assets depreciate.

But like stablecoins based on fiat money, stablecoins based on gold for example (1 token equals 1 gram of gold), end up with the same inconveniences, since generally gold is kept in banks and subject to the same risks and limitations explained above.

That is why at Agrotoken we believe that stablecoins collateralized with commodities linked to agriculture are the most viable alternative for all those investors and individuals who want to use stablecoins collateralized with real assets in a safe and decentralized way.

Unlike fiat money, stablecoins generated by Agrotoken collateralized with grains, which have an intrinsic value per se, have the advantage that they are independent from Governments' Central Banks.

Additionally, stablecoins collateralized by grains can be an excellent tool to protect against inflation, which makes it an investment instrument for Investors with a low risk profile in the medium / long term.

The commodities used by Agrotoken (soy, wheat, corn, rice, etc.) are the most convenient to support a stablecoin, as they generally have a low volatility profile and are simple to understand by Investors and the general public.

The way in which grains are produced, stored and traded in the traditional market, enable a form of decentralization that smoothly matches the principles of the crypto community and the different blockchain platforms.

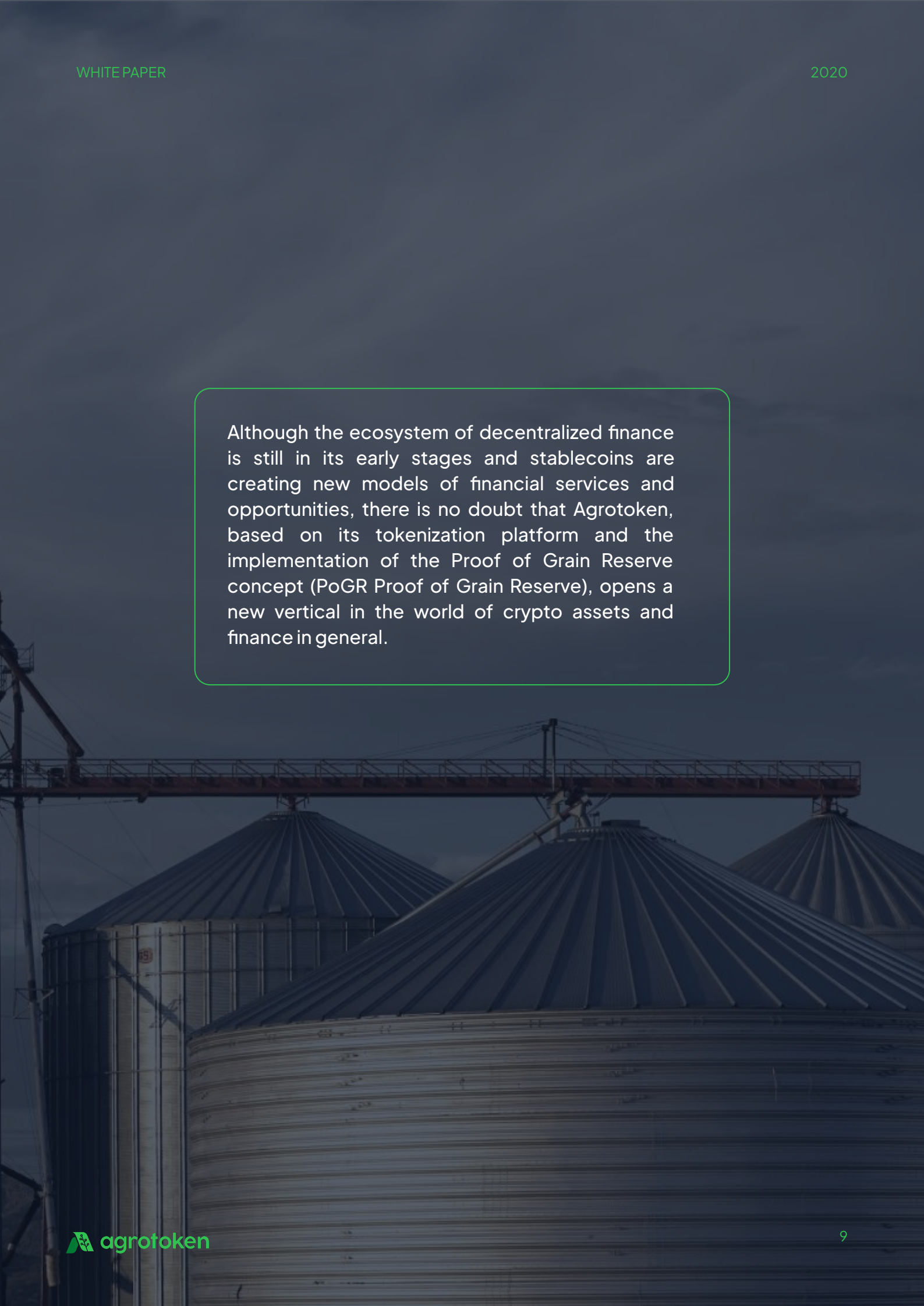
In this way, at Agrotoken, the use of smart contracts and the use of Governance systems allow the issuance and elimination of said cryptoassets, providing a level of transparency and simplicity, easily auditable in real time.

The stablecoins based on agricultural commodities issued by Agrotoken are complementary to the stablecoins issued with collateral in fiat money, as the nature of such collateral is different and Institutional Investors can use both as a form of risk diversification in their asset portfolios.

Finally, we could summarize the following **advantages of using stablecoins created by Agrotoken** with collateral in commodities:

- Efficient use of immobilized capital by members of the chain that store grains (Producers, Collectors, Brokers, etc.).
- 100% collateralized with real assets. • High liquidity
- High liquidity
- Simple to understand by Investors and Users in general.
- Stable price in correlation to the underlying asset.
- Higher level of decentralization than stablecoins based on fiat money.

Although the ecosystem of decentralized finance is still in its early stages and stablecoins are creating new models of financial services and opportunities, there is no doubt that Agrotoken, based on its tokenization platform and the implementation of the Proof of Grain Reserve concept (PoGR Proof of Grain Reserve), opens a new vertical in the world of crypto assets and finance in general.



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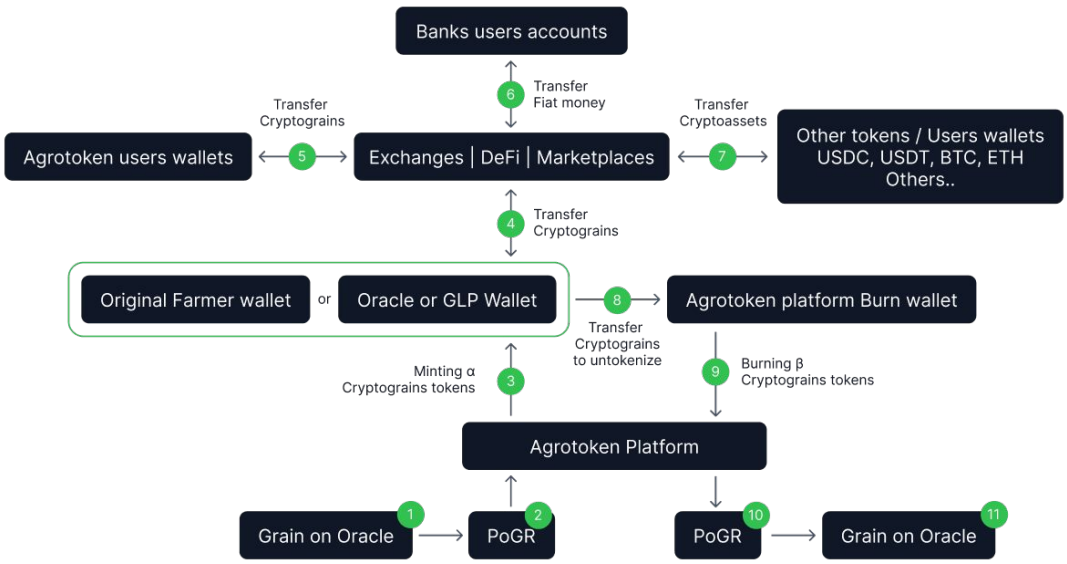
# Agrotoken technology platform

## 3. AGROTOKEN TECHNOLOGY PLATFORM

# General Flow




1. Producer deposits grains in an Oracle, which immobilizes the grains and issues a PoGR certificate.

2. The Producer requests the Agrotoken platform to issue cryptograins (1 Tn grain = 1 Cryptograin Token) and transfers the PoGR as collateral for such cryptograins.

3. Agrotoken issues (minting) the cryptograins and deposits them in the wallet corresponding to the PoGR depositor.

4. The depositor of the PoGR, who may be a Producer, Oracle or Global Network Partner (GNP), transfers cryptograin to the crypto ecosystem to be used in Exchanges, DeFi apps, Marketplaces or any application where cryptograins are accepted.

5. Any participant of the ecosystem with a wallet compatible with cryptograins can transact within the ecosystem.

6. Any member of the ecosystem can transfer cryptograins to an Exchange that accepts cryptograins and convert them into fiat currency (deposited in a Bank account in the country where the Exchange operates)

7. Any User of crypto assets can participate via Exchange, Marketplace or DeFi applications and invest in cryptograins.

8. In the event that the Producer, Oracle or Global Network Partner wish to exit the cryptocurrency position and return to the grain, they can request detokenization by sending their cryptograins to the Agrotoken platform.

9. Agrotoken burns (burning) those cryptograins and they go out of circulation.

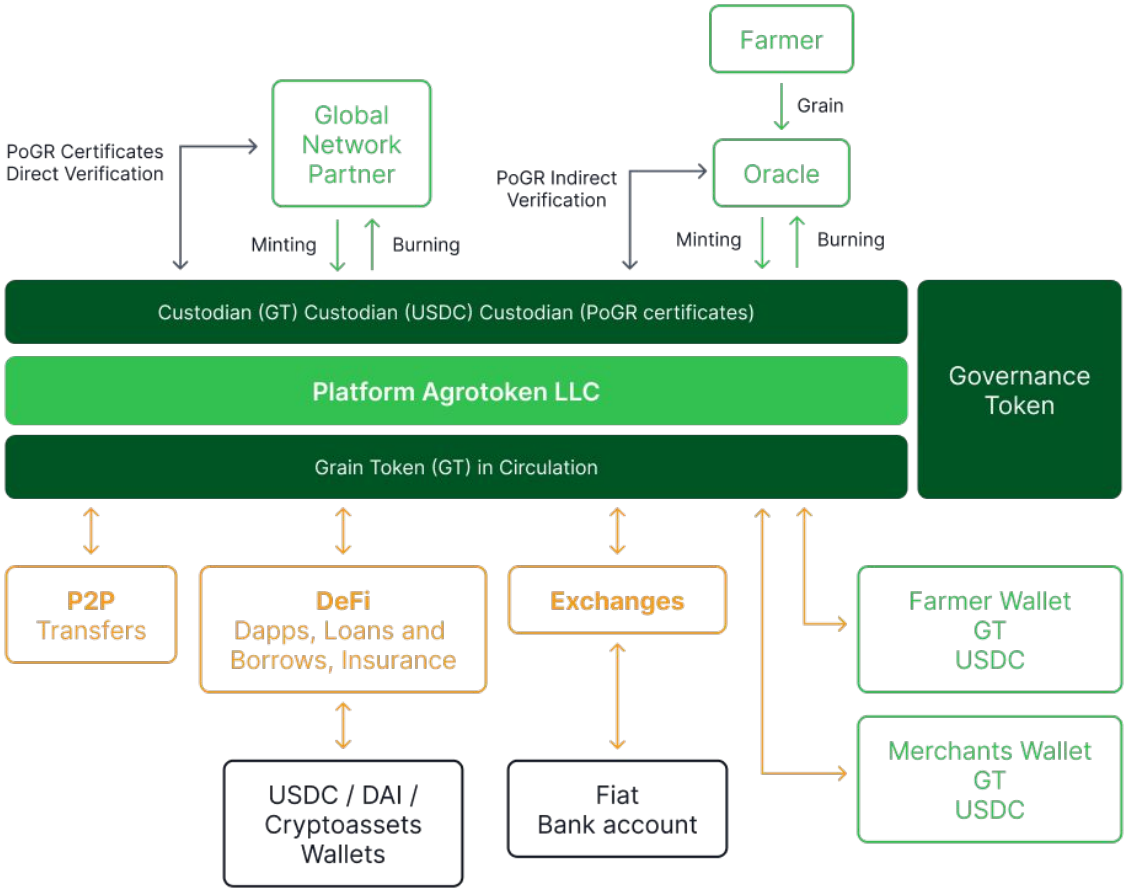
10. Agrotoken returns the PoGR certificates on behalf of the Producers, Oracles or Global Network Partners, maintaining the parity of tons and cryptograin tokens.

11. The detokenized grains are released for their regular commercialization.

The only Custody entity is Agrotoken, who can issue (minting) or destroy (burning) tokens (cryptograins), ensuring the solvency of the system and the equivalence between tons of grains and tokens.

3. AGROTOKEN TECHNOLOGY PLATFORM

## Functionalities Diagram




The Agrotoken Platform is responsible for:

**A)** Accepting the certificates that demonstrate PoGR and issuing (minting) the tokens at the request of Producers and Oracles.

**B)** Returning the supporting documentation of the tokens to the Producers from the Oracles and destroy (burning) the tokens.

**C)** Revoking the documentation from the Oracles and Producers when they deliver the tokens to be destroyed (burning).

**D)** Custodying the PoGR Certificates from the Producers, Oracles and Global Network Partners thatsupportthetokensincirculation.

**E)** Publishing the audit periodically that shows PoGR, certifying that 100% of the tokens in Circulation are backed by grains.

**F)** Solving integrations with Local Oracles, Global Network Partners, Wallets, Exchanges, Marketplaces, DeFi Dapps and any other Partner of the Agrotoken ecosystem.

**G)** Defining the types of grains to be tokenized (soy, corn, wheat, rice, etc.)

**H)** Define the governance model, issuance and distribution of governance tokens.

**I)** Defining the transaction fees for the issuance (minting) and destruction (burning) of tokens.

**J)** Defining the transaction fees for the transfer of tokens among Wallets.

3. AGROTOKEN TECHNOLOGY PLATFORM

# Agrotoken general circulation flow

### STEP 1

A Producer deposits grains in an Oracle, which issues a PoGR certificate. The Producer requests Agrotoken to issue tokens (cryptograins), equivalent to the tons of grain deposited.

### STEP 2

Agrotoken, upon the validation of the Oracle, generates the tokens, keeps the PoGR certificates in custody and transfers the tokens to the Producer's Wallet.

### STEP 3

Users of the Agrotoken ecosystem transact with cryptograins. The User can maintain, transfer, change, apply the tokens in DeFi Dapps or any other technological platform that is created and offers the possibility of transacting with cryptograins.

### STEP 4

The Producer Users, Oracles or Global Network Partners can request to redeem the tokens to Agrotoken, by releasing the supporting documentation of the PoGR and the rest of the Users will be able to convert the cryptograins into another type of cryptoasset / fiat through Exchanges, Marketplaces (exchanges for services or products) or any other enabled service that accepts cryptograins.

### STEP 5

The tokens redeemed (burning) by the Producers, Oracles or Global Network Partners are destroyed and, in this way, the 1:1 ratio of tokens in circulation is kept constant = Grains deposited PoGR.

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# Definitions of the participants of the Agrotoken model

4. DEFINITIONS OF THE PARTICIPANTS OF THE AGROTOKEN MODEL

# Proof of Grain Reserve (PoGR) Concept

Oneofthemajorproblemsfoundinthedesign of crypto assets that represent real assets, in our case grains, is to be able to demonstrate thattheserealassetsexistandcanbeusedas collateral. Once collateralized, there must be mechanisms that ensure that the same grain cannot be used simultaneously to generate new tokens or any other type of security in the traditional market.

If we consider the conventional financial language, we would be faced with the need to minimize Counterparty Risk. Agrotoken must demonstrate to Users that there is a real collateral, guarded by a third party in the agreement, the Oracles and Global Network Partners, and it is immobilized.

The PoGR Proof of Grain Reserve solution implemented by Agrotoken simplifies the process of ensuring that 100% of the issued tokens have a reserve of 100% real grains.

This means that during the PoGR process, Agrotoken creates a system of custody of the grains that show that these are in stock verified by the Oracles and cannot be transferred.

In each country, where Agrotoken operates, a documentation and verification transfer process is identified through Oracles, which determines that the grains are part of the PoGR. This transfer of grains from the Producer to Agrotoken is carried out temporarily, during the tokenization period, being immobilized by the Oracle and which can only be released through the request for detokenization on the Agrotoken platform by Producers, Oracles or Global Network Partners.

In the case of Global Network Partners, they transfer a certificate to Agrotoken for a certain quantity of grains that are part of a floating world stock pool, which is 100% owned by them. These grains are neither sold, nor they are stock held by clients, nor have they been used as collateral for other instruments.

In this way, through the use of smart contracts, the necessary rules and actions are programmed to ensure that the issuance is always 100% collateralized by real assets (grains). The unit of measurement of the token is the Ton, this being the unit of measurement represented in the PoGR and in the corresponding audits.

## Oracles

The Oracles are responsible for validating the existence of the grains, immobilizing them and issuing the Proof of Grain Reserve (PoGR) that may be indirect, being the same property of the Producers or direct, of their own existence.

Agrotoken will take custody of the PoGR documentation and will approve the interfaces with the rest of the ecosystem participants. Through the Governance tokens, the incentives paid to the Producers, the fees paid to the Oracles for the management of the PoGRs and the fees for transactional commissions are defined.

## Global Network Partner

The GNPs are the largest Exporters worldwide, which have the ability to issue tokens through the interconnection with the Agrotoken platform, prior submission for safekeeping the documentation corresponding to the PoGR on verified floating stock.

Once issued, all the tokens are fungible, regardless of whether they have been issued by the Local Oracle or GNP and regardless the grain is in different latitudes.

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# Agrotoken general compensation model

5. AGROTOKEN GENERAL COMPENSATION MODEL

## Producer partially liquidates cryptograins

### Eg. Producer tokenizes 100 Tn, transferred 60 Tn and wants to detokenize 40 Tn

The Producer can generate cryptograin from the tokenization of the local reference documentation for the PoGRs, being able to use or partially or totally transfer the cryptograin tokens to other Users of the ecosystem (Merchants, Producers, Exchanges, etc.).

When the Producer decides to detokenize, that is, to have the grain again, he will only be able to obtain the number of tons of grain corresponding to the destroyed tokens (see the 40 Tn example). If the Producer wanted to de-tokenize the entirety (in the example 100 Tn), he would have to acquire 60 cryptograin tokens on the market.

On the other hand, Agrotoken cannot liquidate the grains of that Producer and collect in fiat money, since in this way the supporting documentation for the issuance of the crypto grains in circulation would be canceled, therefore it would not be possible to maintain the 1:1 parity.

In this way, the options that exist to maintain the PoGR, when the Producer wants to partially redeem (burning) the supporting documentation of the cryptograin tokens would be the following:

A) **Replaces Producer's PoGR with Local Oracle's PoGR:**
The Oracle replaces the supporting documentation for the cryptograin tokens that the Producer maintains in the Oracle with new documentation (Oracle-Agrotoken), thus canceling the outstanding debt between Oracle and the Producer.
The PoGR is kept, since it goes from a nominated stock (Oracle-Producer) to a floating stock (Oracle-Agrotoken).

B) **Replace PoGR Producer with payment in Oracle's cryptograin:**
The Oracle cancels the supporting documentation of the PoGR with cryptograin, Agrotoken returns the certificate to the Oracle and destroys (burning) the cryptograin paid for by the Oracle, thus maintaining the 1:1 parity between cryptograin and real grain.

C) **Replace Producer PoGR with GNP Global Oracle PoGR:**
The Local Oracle exchanges the Producer's PoGR documentation for global PoGR documentation, thus maintaining the 1:1 parity between cryptograin and real grain.

## Oráculo, clearing or settlement strategies

As we saw in the previous point, the Oracles are responsible for maintaining the PoGR, for which we have developed the way in which this is resolved in each use case:

A) The Oracle accepts payments in Cryptograin:
- Producers who pay in cryptograins for supplies, services or products.
- Importersthatpayincryptograinsforgrains.
- Oracle Financial Services accepting cryptograins as collateral

B) The Oracle clears stock or intercompany payments with floating stock documentation to exchange supporting documentation of local cryptograins for global ones.

C) The Oracle buys cryptograin in the secondary market (P2P Wallets or via Exchange) to be destroyed (burning) and cancel PoGR of the Producers who partially redeemed.

5. AGROTOKEN GENERAL COMPENSATION MODEL

## Farmer wallet

The Farmer Wallet will be the cryptoasset wallet that the Producer uses to receive the cryptograin tokens that are generated from the tokenization of its grains.

This Farmer Wallet may be declared by the Producer if it already contains a Wallet compatible with ERC20 tokens (Metamask or others) or a destination Wallet will be assigned from Agrotoken if it does not have one. In the alternative of using the Wallet generated by Agrotoken, it provides the User with the corresponding security conditions.

Additionally, the Wallet generated by Agrotoken will have the feature to manage other tokens with stablecoins related to fiat such as DAI and USDC, among others, to facilitate the exchange and swap between crypto assets.

## Merchant wallet

The Merchant Wallet is the crypto Wallet that belongs to any Merchant that accepts cryptograin as a means of payment. It must be compatible with ERC20 tokens (Metamask or other).

This would facilitate the incorporation of more businesses and a greater volume of Agrotoken transaction.

## Exchange wallet

For all those Users who decide to manage the crypto assets generated by Agrotoken from an Exchange that accepts their trading, they will be subject to the conditions and risks derived from leaving their assets in custody in such Exchanges.

Agrotoken will work together with most of the recognized exchanges of the global market to ensure the liquidity and trading of its tokens.

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# Main Applications

6. MAIN APPLICATIONS

## Producers

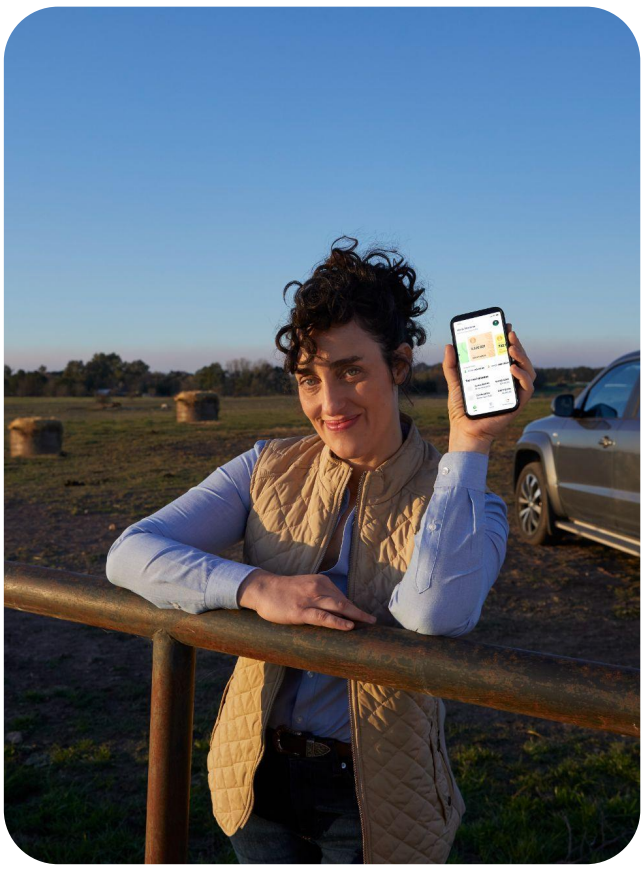
- Low-rate financing opportunities collateralized with cryptograins.
- Interest on fixed assets.
- Investment in Cross-Farming projects with cryptograins.
- Purchase of supplies and payment of utilities.
- Protection against variations in local currency.
- Conversion and liquidity of cryptograins in fiat stablecoins or other crypto assets
- Disintermediation of Banks, Brokers and Commission Agents.
- Use of derivatives or synthetics generated with collateral in cryptograins for hedging.
- Cooperative insurance systems via smart contracts (crypto insurance) with cryptograin coverage.

## P2P

- Use of cryptograins as a security of value.
- Use of cryptograins as speculative investment (variation of the price of grain in the short, medium or long term).
- Use of cryptograin as an entry to the agricultural market without the need to become a Producer
- Use of cryptograin as collateral in the DeFi market.
- Collection in cryptograin for professional services or as dividends from investments related to agriculture.

## Merchants

- Generation of marketplace that accept cryptograins.
- Liquidity in the collection by conversion into stablecoins or fiduciary currency.
- Lower transaction costs and taxes compared to a credit card or exchange. • Financing in the sale of products with a guarantee in cryptograin.
- Development of loyalty or incentive programs based on cryptograin. • Decrease in administrative and collection costs.
- Payment to suppliers in the traditional supply chain with cryptograins



6. MAIN APPLICATIONS

## Exchanges

- Incorporation of a new stablecoin vertical: cryptograins.
- Incorporation of new individual Users to the cryptocurrency system from the Agribusiness industry.
- Incorporation of Institutional Investors who invest in Agro projects and allow cryptocurrency positions to be settled or exchange them for other crypto assets (bitcoin, usdc, etc.)
- Creation of value-added services for Producers, Merchants and Investors who want to maintain and apply their cryptograins in the DeFi world.
- Administration of large Import / Export accounts, via payments and compensation in the world grain market.
- Evangelization of new generations of Producers to include crypto assets in their investment portfolios.
- Revenue share of transaction fees with Agrotoken.

## Large exporters/importers

- Generation of new income: financial profits on floating stock, PoGR management fees through the governance tokens, new DeFi products.
- Low-cost financing in the centralized crypto market CeFi and decentralized DeFi.
- Incentive to Producers to increase production.
- Ease of P2P compensation processes between business units and between Exporters.
- Acceptance of payment of grains in cryptograins, growing the ecosystem and liquidity in the market.
- Payment to providers with cryptograins.
- Generation of services to Producers collateralized with cryptograins. • Generation of synthetics to purchase future grain.
- Future sale collateralized with cryptograins.
- Revenue share of transaction fees with Agrotoken.

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# Agrotoken Smart Contracts

Agrotoken uses the ERC 20 standardized protocol on the Ethereum network for the creation of each of its tokens, which allows maintaining the fungible token characteristic, and perfectly represents a commodity; and on the other hand, the use of these tokens makes them compatible with most Daaps in the world of DeFi decentralized finance.

It also allows the creation of smart contracts in a simple way and gives programmers and entrepreneurs in the crypto world the possibility of creating new applications, platforms, protocols and services that grow the crypto-assets ecosystem usage generated by Agrotoken.

7. AGROTOKEN SMART CONTRACTS

## Criptosoja Token

Cryptosoja is the first token generated by Agrotoken.

> One cryptosoja token is equivalent to one ton of real soy.

Each token of 1 ton of cryptosoja is divisible up to the minimum unit of 4 decimal places, that is, 0.0001 ton of cryptosoja.

The Issuance / Destruction (minting / burning) of the cryptosoja tokens will be linked to the incorporation / cancellation of the PoGR certificates that maintain the 1:1 parity between cryptosoja and real soy.

## Token Gobernance

The governance token is used to manage and define the agreements between the participants of the Agrotoken platform.

Its main functions are:

- Appoint or cancel Administrators.
- Block the circulation of tokens in case of difficulties in the operation of the platform.
- Vote on protocol changes.
- Define the tokenization, detokenization, transaction and incentive fees for the different crypto-assets generated by Agrotoken. Dividend distribution
- Define reference entities for USD grain spot price.

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# Revenue model

7. REVENUE MODEL

## Tokenization and Destokenization Fee
### (Minting and Burning fee)

Minting and Burning fee are defined as the value that the Agrotoken platform will receive for each of the tokens that are generated or destroyed on the platform.

The minting and burning process of the tokens is exclusive to Agrotoken as their custodian.

These fees may vary depending on the type of grain (cryptosoja, cryptomaiz, etc.), type of Network Partner, volume of each transaction, or other function that is established by the holders of the governance tokens.

The definition of such fees will be subject to the vote of the holders of the governance tokens.

## Transaction Fee

The transaction fee is defined as the value that the Agrotoken platform will receive for administration each time the tokens are transacted.

A transaction occurs when the token is transferred from one wallet to another. These fees are a % percentage of the transaction that may range between 0% and 2%, depending on the type of grain (cryptosoja, cryptomaiz, etc.)

The definition of such percentage will be subject to the vote of the holders of the governance tokens.


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