

0.7

DinoSwap Process Quality Review

Score 35%

Overview

This is a [DinoSwap](#) Process Quality Review completed on August 10th 2021. It was performed using the Process Review process (version 0.7.3) and is documented [here](#). The review was performed by Nic of DeFiSafety. Check out our [Telegram](#).

The final score of the review is **35%**, a **FAIL**. The breakdown of the scoring is in [Scoring Appendix](#). For our purposes, a pass is **70%**.

Summary of the Process

Very simply, the review looks for the following declarations from the developer's site. With these declarations, it is reasonable to trust the smart contracts.

- **Here are my smart contracts on the blockchain**
- **Here is the documentation that explains what my smart contracts do**
- **Here are the tests I ran to verify my smart contract**
- **Here are the audit(s) performed on my code by third party experts**
- **Here are the admin controls and strategies**

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Chain

This section indicates the blockchain used by this protocol.

 **Chain:** Polygon

Guidance:

Ethereum
Binance Smart Chain
Polygon
Avalanche
Terra

Code and Team

This section looks at the code deployed on the Mainnet that gets reviewed and its corresponding software repository. The document explaining these questions is [here](#). This review will answer the following questions:

- 1) Are the executing code addresses readily available? (%)
- 2) Is the code actively being used? (%)
- 3) Is there a public software repository? (Y/N)
- 4) Is there a development history visible? (%)
- 5) Is the team public (not anonymous)? (Y/N)

1) Are the executing code addresses readily available? (%)

 **Answer:** 70%

They are available at website <https://docs.dinoswap.exchange/yield-farming-jurassic-farms/farms#master-chef-contract>, as indicated in the [Appendix](#). Also the address for TARPIT.sol is no available. For this reason the score is dropped to 40%

Note: Since DinoSwap does not have an explicit "Smart Contract Addresses" section, finding the addresses takes a bit of searching with the search function of their documentation.

Guidance:

- | | |
|------|--|
| 100% | Clearly labelled and on website, docs or repo, quick to find |
| 70% | Clearly labelled and on website, docs or repo but takes a bit of looking |
| 40% | Addresses in mainnet.json, in discord or sub graph, etc |
| 20% | Address found but labeling not clear or easy to find |
| 0% | Executing addresses could not be found |

How to improve this score:

Make the Ethereum addresses of the smart contract utilized by your application available on either your website or your GitHub (in the README for instance). Ensure the addresses is up to date. This is a very important question towards the final score.

2) Is the code actively being used? (%)

 **Answer:** 100%

Activity is over 80,000 transactions a day on contract *FossilFarms.sol*, as indicated in the [Appendix](#).

Guidance:

- | | |
|------|-----------------------------------|
| 100% | More than 10 transactions a day |
| 70% | More than 10 transactions a week |
| 40% | More than 10 transactions a month |
| 10% | Less than 10 transactions a month |
| 0% | No activity |

3) Is there a public software repository? (Y/N)

 **Answer:** Yes

GitHub: <https://github.com/DinoSwap/fossil-farms-contract>.

Note: Not sure if this constitutes a public repository since they only have 2 files in each individual repository.

Is there a public software repository with the code at a minimum, but also normally test and scripts. Even if the repository was created just to hold the files and has just 1 transaction, it gets a "Yes". For teams with private repositories, this answer is "No".

4) Is there a development history visible? (%)

 **Answer:** 0%

With 2 commits and 1 branch, this is an unhealthy software repository.

This metric checks if the software repository demonstrates a strong steady history. This is normally demonstrated by commits, branches and releases in a software repository. A healthy history demonstrates a history of more than a month (at a minimum).

Guidance:

100%	Any one of 100+ commits, 10+branches
70%	Any one of 70+ commits, 7+branches
50%	Any one of 50+ commits, 5+branches
30%	Any one of 30+ commits, 3+branches
0%	Less than 2 branches or less than 30 commits

How to improve this score:

Continue to test and perform other verification activities after deployment, including routine maintenance updating to new releases of testing and deployment tools. A public development history indicates clearly to the public the level of continued investment and activity by the developers on the application. This gives a level of security and faith in the application.

5) Is the team public (not anonymous)? (Y/N)

 Answer: No

Location: No public team info was found.

For a "Yes" in this question, the real names of some team members must be public on the website or other documentation (LinkedIn, etc). If the team is anonymous, then this question is a "No".

Documentation

This section looks at the software documentation. The document explaining these questions is [here](#).

Required questions are;

- 6) Is there a whitepaper? (Y/N)
- 7) Are the basic software functions documented? (Y/N)
- 8) Does the software function documentation fully (100%) cover the deployed contracts? (%)
- 9) Are there sufficiently detailed comments for all functions within the deployed contract code (%)
- 10) Is it possible to trace from software documentation to the implementation in code (%)

6) Is there a whitepaper? (Y/N)

 **Answer:** Yes

Location: <https://docs.dinoswap.exchange/>.

7) Are the basic software functions documented? (Y/N)

 **Answer:** No

There are no software functions documented in the DinoSwap documentation.

How to improve this score:

Write the document based on the deployed code. For guidance, refer to the [SecurEth System Description Document](#).

8) Does the software function documentation fully (100%) cover the deployed contracts? (%)

 **Answer:** 0%

There are no software functions documented in the DinoSwap documentation.

Guidance:

- | | |
|-------|---|
| 100% | All contracts and functions documented |
| 80% | Only the major functions documented |
| 79-1% | Estimate of the level of software documentation |
| 0% | No software documentation |

How to improve this score:

This score can be improved by adding content to the software functions document such that it comprehensively covers the requirements. For guidance, refer to the [SecurEth System Description Document](#). Using tools that aid traceability detection will help.

9) Are there sufficiently detailed comments for all functions within the deployed contract code (%)

 **Answer:** 100%

Code examples are in the [Appendix](#). As per the [SLOC](#), there is 136% commenting to code (CtC).

The Comments to Code (CtC) ratio is the primary metric for this score.

Guidance:

100%	CtC > 100	Useful comments consistently on all code
90-70%	CtC > 70	Useful comment on most code
60-20%	CtC > 20	Some useful commenting
0%	CtC < 20	No useful commenting

10) Is it possible to trace from software documentation to the implementation in code (%)

 **Answer:** 0%

There are no software functions documented in the DinoSwap documentation, and therefore no traceability towards their source code.

Guidance:

100%	Clear explicit traceability between code and documentation at a requirement level for all code
60%	Clear association between code and documents via non explicit traceability
40%	Documentation lists all the functions and describes their functions
0%	No connection between documentation and code

How to improve this score:

This score can improve by adding traceability from documentation to code such that it is clear where each outlined function is coded in the source code. For reference, check the SecurEth guidelines on [traceability](#).

Testing

This section looks at the software testing available. It is explained in this [document](#). This section answers the following questions;

- 11) Full test suite (Covers all the deployed code) (%)
- 12) Code coverage (Covers all the deployed lines of code, or explains misses) (%)
- 13) Scripts and instructions to run the tests (Y/N)
- 14) Report of the results (%)
- 15) Formal Verification test done (%)
- 16) Stress Testing environment (%)

11) Is there a Full test suite? (%)

 **Answer:** 0%

There is no testing suite inside of the DinoSwap GitHub repository. Therefore, we cannot evaluate the TtC.

Guidance:

- 100% TtC > 120% Both unit and system test visible
- 80% TtC > 80% Both unit and system test visible
- 40% TtC < 80% Some tests visible
- 0% No tests obvious

How to improve this score:

This score can be improved by adding tests to fully cover the code. Document what is covered by traceability or test results in the software repository.

12) Code coverage (Covers all the deployed lines of code, or explains misses) (%)

 **Answer:** 0%

There is no evidence of DinoSwap code coverage in any of their documentation, nor in their Certik audit report.

Guidance:

- 100% Documented full coverage
- 99-51% Value of test coverage from documented results
- 50% No indication of code coverage but clearly there is a reasonably complete set of tests
- 30% Some tests evident but not complete
- 0% No test for coverage seen

How to improve this score:

This score can be improved by adding tests that achieve full code coverage. A clear report and scripts in the software repository will guarantee a high score.

13) Scripts and instructions to run the tests (Y/N)

 **Answer:** 0%

As there is no testing suite, there is also a lack of scripts or instructions to run tests.

How to improve this score:

Add the scripts to the repository and ensure they work. Ask an outsider to create the environment and run the tests. Improve the scripts and docs based on their feedback.

14) Report of the results (%)

 **Answer:** 0%

There are no testing result reports in the DinoSwap GitHub repository.

Guidance:

- 100% Detailed test report as described below
- 70% GitHub code coverage report visible
- 0% No test report evident

How to improve this score

Add a report with the results. The test scripts should generate the report or elements of it.

15) Formal Verification test done (%)

 **Answer:** 0%

There is no evidence of a DinoSwap Formal Verification test in their documentation or in further web research.

16) Stress Testing environment (%)

 **Answer:** 0%

There is no evidence of DinoSwap's testnet smart contract usage in any of their documentation.

Security

This section looks at the 3rd party software audits done. It is explained in this [document](#). This section answers the following questions;

- 17) Did 3rd Party audits take place? (%)
- 18) Is the bounty value acceptably high?

17) Did 3rd Party audits take place? (%)

 **Answer:** 90%

Certik has published a DinoSwap audit report of their staking/farming functions on July 7th 2021.

DinoSwap launched their staking pools on July 16th 2021

Note: Most of the fix recommendations were successfully implemented by the DinoSwap team.

Guidance:

- 100% Multiple Audits performed before deployment and results public and implemented or not required
- 90% Single audit performed before deployment and results public and implemented or not required
- 70% Audit(s) performed after deployment and no changes required. Audit report is public
- 50% Audit(s) performed after deployment and changes needed but not implemented
- 20% No audit performed
- 0% Audit Performed after deployment, existence is public, report is not public and no improvements deployed OR smart contract address' not found, (where question 1 is 0%)

Deduct 25% if code is in a private repo and no note from auditors that audit is applicable to deployed code

18) Is the bounty value acceptably high (%)

 **Answer:** 0%

No evidence of a DinoSwap Bug Bounty program was found in their documentation or in further web searches.

Guidance:

- 100% Bounty is 10% TVL or at least \$1M AND active program (see below)
- 90% Bounty is 5% TVL or at least 500k AND active program
- 80% Bounty is 5% TVL or at least 500k
- 70% Bounty is 100k or over AND active program
- 60% Bounty is 100k or over
- 50% Bounty is 50k or over AND active program
- 40% Bounty is 50k or over
- 20% Bug bounty program bounty is less than 50k
- 0% No bug bounty program offered

An active program means that a third party (such as Immunefi) is actively driving hackers to the site. An inactive program would be static mentions on the docs.

Access Controls

This section covers the documentation of special access controls for a DeFi protocol. The admin access controls are the contracts that allow updating contracts or coefficients in the protocol. Since these contracts can allow the protocol admins to "change the rules", complete disclosure of capabilities is vital for user's transparency. It is explained in this [document](#). The questions this section asks are as follow;

- 19) Can a user clearly and quickly find the status of the admin controls?
- 20) Is the information clear and complete?
- 21) Is the information in non-technical terms that pertain to the investments?
- 22) Is there Pause Control documentation including records of tests?

19) Can a user clearly and quickly find the status of the access controls (%)

 **Answer:** 0%

DinoSwap currently does not have any official governance or access control documentation. However, according to their recent Medium articles, this will be a upcoming addition to their ecosystem.

Guidance:

- | | |
|------|--|
| 100% | Clearly labelled and on website, docs or repo, quick to find |
| 70% | Clearly labelled and on website, docs or repo but takes a bit of looking |
| 40% | Access control docs in multiple places and not well labelled |
| 20% | Access control docs in multiple places and not labelled |
| 0% | Admin Control information could not be found |

20) Is the information clear and complete (%)

 **Answer:** 0%

DinoSwap currently does not have any official governance or access control documentation. However, according to their recent Medium articles, this will be a upcoming addition to their ecosystem.

Guidance:

All the contracts are immutable -- 100% OR

- a) All contracts are clearly labelled as upgradeable (or not) -- 30% AND
- b) The type of ownership is clearly indicated (OnlyOwner / MultiSig / Defined Roles) -- 30% AND
- c) The capabilities for change in the contracts are described -- 30%

How to improve this score:

Create a document that covers the items described above. An [example](#) is enclosed.

21) Is the information in non-technical terms that pertain to the investments (%)

 **Answer:** 0%

DinoSwap currently does not have any official governance or access control documentation. However, according to their recent Medium articles, this will be a upcoming addition to their ecosystem.

Guidance:

- 100% All the contracts are immutable
- 90% Description relates to investments safety and updates in clear, complete non-software language
- 30% Description all in software specific language
- 0% No admin control information could not be found

How to improve this score:

Create a document that covers the items described above in plain language that investors can understand. An [example](#) is enclosed.

22) Is there Pause Control documentation including records of tests (%)

 **Answer:** 0%

There is no evidence of a Pause Control or similar function in the DinoSwap documentation.

Guidance:

- 100% All the contracts are immutable or no pause control needed and this is explained OR
- 100% Pause control(s) are clearly documented and there is records of at least one test within 3 months
- 80% Pause control(s) explained clearly but no evidence of regular tests
- 40% Pause controls mentioned with no detail on capability or tests
- 0% Pause control not documented or explained

How to improve this score:

Create a document that covers the items described above in plain language that investors can understand. An [example](#) is enclosed.

Appendices

Author Details

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I started with Ethereum just before the DAO and that was a wonderful education. It showed the importance of code quality. The second Parity hack also showed the importance of good process. Here my aviation background offers some value. Aerospace knows how to make reliable code using quality processes.

I was coaxed to go to EthDenver 2018 and there I started [SecuEth.org](#) with Bryant and Roman. We created guidelines on good processes for blockchain code development. We got [EthFoundation funding](#) to assist in their development.

Process Quality Reviews are an extension of the SecurEth guidelines that will further increase the quality processes in Solidity and Vyper development.

DeFiSafety is my full time gig and we are working on funding vehicles for a permanent staff.

Scoring Appendix

	Total	DinoSwap	
		Points	Answer
PQ Audit Scoring Matrix (v0.7)	Total	260	91
Code and Team			35%
1) Are the executing code addresses readily available? (%)	20	40%	8
2) Is the code actively being used? (%)	5	100%	5
3) Is there a public software repository? (Y/N)	5	Y	5
4) Is there a development history visible? (%)	5	0%	0
5) Is the team public (not anonymous)? (Y/N)	15	n	0
Code Documentation			
6) Is there a whitepaper? (Y/N)	5	Y	5
7) Are the basic software functions documented? (Y/N)	10	n	0
8) Does the software function documentation fully (100%) cover the deployed contracts? (%)	15	0%	0
9) Are there sufficiently detailed comments for all functions within the deployed contract code? (%)	5	100%	5
10) Is it possible to trace from software documentation to the implementation in code (%)	10	0%	0
Testing			
11) Full test suite (Covers all the deployed code) (%)	20	0%	0
12) Code coverage (Covers all the deployed lines of code, or explains misses) (%)	5	0%	0
13) Scripts and instructions to run the tests? (Y/N)	5	0	0
14) Report of the results (%)	10	0%	0
15) Formal Verification test done (%)	5	0%	0
16) Stress Testing environment (%)	5	0%	0
Security			
17) Did 3rd Party audits take place? (%)	70	90%	63
18) Is the bug bounty acceptable high? (%)	10	0%	0
Access Controls			
19) Can a user clearly and quickly find the status of the admin controls	5	0%	0
20) Is the information clear and complete	10	0%	0
21) Is the information in non-technical terms	10	0%	0
22) Is there Pause Control documentation including records of tests	10	0%	0
Section Scoring			
Code and Team	50	36%	
Documentation	45	22%	
Testing	50	0%	

Security	80	79%
Access Controls	35	0%

Executing Code Appendix

Master Chef Contract

Contract Address: 0x1948abC5400Aa1d72223882958Da3bec643fb4E5

Link: <https://polygonscan.com/address/0x1948abC5400Aa1d72223882958Da3bec643fb4E5>

Code Used Appendix



Example Code Appendix

```

1 pragma solidity ^0.6.12;
2
3 contract FossilFarms is Ownable {
4
5     using SafeMath for uint256;
6     using SafeERC20 for IERC20;
7
8     struct UserInfo
9     {
10         uint256 amount;           // How many LP tokens the user has provided.
11         uint256 rewardDebt;      // Reward debt. See explanation below.
12     }
13
14     struct PoolInfo
15     {
16

```

```

--                                         // Address of LP token contract.
17    IERC20 lpToken;                  // How many allocation points assigned to this pool.
18    uint256 allocPoint;              // Last block number that DINO distribution occurred.
19    uint256 lastRewardBlock;         // Accumulated DINO per share, times 1e12. See below.
20    uint256 accDinoPerShare;
21
22    IERC20 public DINO;             // DINO token
23    PoolInfo[] public poolInfo;     // Info of each pool.
24    uint256 public dinoPerBlock;    // DINO tokens created per block.
25    uint256 public startBlock;      // The block number at which DINO distribution starts.
26    uint256 public endBlock;        // The block number at which DINO distribution ends.
27    uint256 public totalAllocPoint = 0; // Total allocation poitns. Must be the sum of all
28
29    mapping (uint256 => mapping (address => UserInfo)) public userInfo;      // Info of each
30
31    event Deposit(address indexed user, uint256 indexed pid, uint256 amount);
32    event Withdraw(address indexed user, uint256 indexed pid, uint256 amount);
33    event EmergencyWithdraw(address indexed user, uint256 indexed pid, uint256 amount);
34
35    constructor(IERC20 _DINO, uint256 _dinoPerBlock, uint256 _startBlock, uint256 _endBlock) {
36        DINO = _DINO;
37        dinoPerBlock = _dinoPerBlock;
38        startBlock = _startBlock;
39        endBlock = _endBlock;
40    }
41
42    /**
43     * @dev Adds a new lp to the pool. Can only be called by the owner. DO NOT add the same
44     * @param _allocPoint How many allocation points to assign to this pool.
45     * @param _lpToken Address of LP token contract.
46     * @param _withUpdate Whether to update all LP token contracts. Should be true if DINO
47     */
48    function add(uint256 _allocPoint, IERC20 _lpToken, bool _withUpdate) public onlyOwner {
49        if (_withUpdate) {
50            massUpdatePools();
51        }
52        uint256 lastRewardBlock = block.number > startBlock ? block.number : startBlock;
53        totalAllocPoint = totalAllocPoint.add(_allocPoint);
54        poolInfo.push(PoolInfo({
55            lpToken: _lpToken,
56            allocPoint: _allocPoint,
57            lastRewardBlock: lastRewardBlock,
58            accDinoPerShare: 0
59        }));
60    }
61
62    /**
63     * @dev Update the given pool's DINO allocation point. Can only be called by the owner
64     * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
65     * @param _allocPoint How many allocation points to assign to this pool.
66     * @param _withUpdate Whether to update all LP token contracts. Should be true if DINO
67     */
68    function set(uint256 _pid, uint256 _allocPoint, bool _withUpdate) public onlyOwner {

```

```

69     if (_withUpdate) {
70         massUpdatePools();
71     }
72     totalAllocPoint = totalAllocPoint.sub(poolInfo[_pid].allocPoint).add(_allocPoint);
73     poolInfo[_pid].allocPoint = _allocPoint;
74 }
75
76 /**
77 * @dev Return reward multiplier over the given _from to _to blocks based on block count.
78 * @param _from First block.
79 * @param _to Last block.
80 * @return Number of blocks.
81 */
82 function getMultiplier(uint256 _from, uint256 _to) internal view returns (uint256) {
83     if (_to < endBlock) {
84         return _to.sub(_from);
85     } else if (_from >= endBlock) {
86         return 0;
87     } else {
88         return endBlock.sub(_from);
89     }
90 }
91
92 /**
93 * @dev View function to see pending DINO on frontend.
94 * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
95 * @param _user Address of a specific user.
96 * @return Pending DINO.
97 */
98 function pendingDino(uint256 _pid, address _user) external view returns (uint256) {
99     PoolInfo storage pool = poolInfo[_pid];
100    UserInfo storage user = userInfo[_pid][_user];
101    uint256 accDinoPerShare = pool.accDinoPerShare;
102    uint256 lpSupply = pool.lpToken.balanceOf(address(this));
103    if (block.number > pool.lastRewardBlock && lpSupply != 0) {
104        uint256 multiplier = getMultiplier(pool.lastRewardBlock, block.number);
105        uint256 dinoReward = multiplier.mul(dinoPerBlock).mul(pool.allocPoint).div(totalAllocPoint);
106        accDinoPerShare = accDinoPerShare.add(dinoReward.mul(1e12).div(lpSupply));
107    }
108    return user.amount.mul(accDinoPerShare).div(1e12).sub(user.rewardDebt);
109 }
110
111 /**
112 * @dev Update reward variables for all pools. Be careful of gas spending!
113 */
114 function massUpdatePools() public {
115     uint256 length = poolInfo.length;
116     for (uint256 pid = 0; pid < length; ++pid) {
117         updatePool(pid);
118     }
119 }
120
121 ...

```

```

121  /**
122
123   * @dev Update reward variables of the given pool to be up-to-date.
124   * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
125   */
126
127 function updatePool(uint256 _pid) public {
128     PoolInfo storage pool = poolInfo[_pid];
129     if (block.number <= pool.lastRewardBlock) {
130         return;
131     }
132     uint256 lpSupply = pool.lpToken.balanceOf(address(this));
133     if (lpSupply == 0) {
134         pool.lastRewardBlock = block.number;
135         return;
136     }
137     uint256 multiplier = getMultiplier(pool.lastRewardBlock, block.number);
138     uint256 dinoReward = multiplier.mul(dinoPerBlock).mul(pool.allocPoint).div(totalAllocPoint);
139     pool.accDinoPerShare = pool.accDinoPerShare.add(dinoReward.mul(1e12).div(lpSupply));
140     pool.lastRewardBlock = block.number;
141 }
142
143 /**
144  * @dev Deposit LP tokens to the Fossil Farm for DINO allocation.
145  * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
146  * @param _amount Amount of LP tokens to deposit.
147  */
148
149 function deposit(uint256 _pid, uint256 _amount) public {
150     PoolInfo storage pool = poolInfo[_pid];
151     UserInfo storage user = userInfo[_pid][msg.sender];
152     updatePool(_pid);
153     if (user.amount > 0) {
154         uint256 pending = user.amount.mul(pool.accDinoPerShare).div(1e12).sub(user.rewardDebt);
155         safeDinoTransfer(msg.sender, pending);
156     }
157     pool.lpToken.safeTransferFrom(address(msg.sender), address(this), _amount);
158     user.amount = user.amount.add(_amount);
159     user.rewardDebt = user.amount.mul(pool.accDinoPerShare).div(1e12);
160     emit Deposit(msg.sender, _pid, _amount);
161 }
162
163 /**
164  * @dev Withdraw LP tokens from the Fossil Farm.
165  * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
166  * @param _amount Amount of LP tokens to withdraw.
167  */
168
169 function withdraw(uint256 _pid, uint256 _amount) public {
170     PoolInfo storage pool = poolInfo[_pid];
171     UserInfo storage user = userInfo[_pid][msg.sender];
172     require(user.amount >= _amount, "Can't withdraw more token than previously deposited");
173     updatePool(_pid);
174     uint256 pending = user.amount.mul(pool.accDinoPerShare).div(1e12).sub(user.rewardDebt);
175     safeDinoTransfer(msg.sender, pending);
176     user.amount = user.amount.sub(_amount);
177     user.rewardDebt = user.amount.mul(pool.accDinoPerShare).div(1e12);

```

```

173     user.rewardDebt = user.amount.mul(pool.accruedShare).div(1e12),
174     pool.lpToken.safeTransfer(address(msg.sender), _amount);
175     emit Withdraw(msg.sender, _pid, _amount);
176 }
177
178 /**
179 * @dev Withdraw without caring about rewards. EMERGENCY ONLY.
180 * @param _pid ID of a specific LP token pool. See index of PoolInfo[].
181 */
182 function emergencyWithdraw(uint256 _pid) public {
183     PoolInfo storage pool = poolInfo[_pid];
184     UserInfo storage user = userInfo[_pid][msg.sender];
185     pool.lpToken.safeTransfer(address(msg.sender), user.amount);
186     emit EmergencyWithdraw(msg.sender, _pid, user.amount);
187     user.amount = 0;
188     user.rewardDebt = 0;
189 }
190
191 /**
192 * @dev Safe transfer function, just in case if rounding error causes the Fossil Farm
193 * @param _to Target address.
194 * @param _amount Amount of DINO to transfer.
195 */
196 function safeDinoTransfer(address _to, uint256 _amount) internal {
197     uint256 dinoBalance = DINO.balanceOf(address(this));
198     if (_amount > dinoBalance) {
199         DINO.transfer(_to, dinoBalance);
200     } else {
201         DINO.transfer(_to, _amount);
202     }
203 }
```

SLOC Appendix

Solidity Contracts

Language	Files	Lines	Blanks	Comments	Code	Complex
Solidity	4	2382	279	1212	891	103

Comments to Code 1212/891 = 136%

Javascript Tests

Language	Files	Lines	Blanks	Comments	Code	Complex
JavaScript	N/A	N/A	N/A	N/A	N/A	N/A

Tests to Code = N/A

