Package 'EconAndProdEfficiency'

May 7, 2026

Type Package

Title Economic and Production Efficiency

Version 0.1.0

Maintainer Tanuj Misra <tanujmisra102@gmail.com>

Description Production efficiency and economic efficiency are crucial concepts in agriculture/horticulture for sustainable and profitable practices. It helps to determine the optimal use of resources to maximize outputs and profitability. Production efficiency focuses on the optimal use of resources to produce goods, while economic efficiency ensures these goods are produced and allocated in a way that maximizes economic welfare. Production efficiency and economic efficiency are calculated with the help of the formula given by (Kumar et al., 2017) <doi:10.21921/jas.v4i04.10202>.

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Encoding UTF-8

NeedsCompilation no

Author Sudip Kumar Dutta [aut, cph],
Tanuj Misra [aut, cre, cph]

Repository CRAN

Date/Publication 2024-05-30 08:10:08 UTC

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`economicEfficiency` *Economic efficiency*

Description

Economic efficiency refers to the optimal production and allocation of resources to maximize the wealth or welfare. It considers both production and consumption, ensuring that goods and services are produced at the lowest possible cost and distributed to those who value them the most.

Usage

```
eco_eff(Net_return , Total_duration_of_the_crop)
```

Arguments

`Net_return`	Net return ($/ha)
`Total_duration_of_the_crop`	Total duration of the crop (in days)

Value

Economic efficiency ($/ha/day)

References

Kumar, M., Rajkhowa, D.J., Meena, K.L., Rakesh, K., Zeliang, P.K., Kikon, E.L., Rangnamei, K.L., Namei, A., 2017. Effect of nutrient management in lowland rice for improving productivity, profitability and energetics under the mid hill of Nagaland. J. AgriSearch 4, 247–250.\ Dutta, S. K., Layek, J., Yadav, A., Das, S. K., Rymbai, H., Mandal, S. & Mishra, V. K. (2023). Improvement of rooting and growth in kiwifruit (Actinidia deliciosa) cuttings with organic biostimulants. Heliyon, 9(7).

Examples

```
Net_return <- 7.2
Total_duration_of_the_crop <- 270
eco_eff(Net_return, Total_duration_of_the_crop)
```

productionEfficiency *Production efficiency*

Description

Production efficiency refers to the ability of a production system to convert inputs (such as labor, materials, and capital) into outputs (goods or services) in the most efficient manner without wasting resources.

Usage

```
prod_eff(Grain_yield, Total_duration_of_the_crop)
```

Arguments

`Grain_yield`	Grain yield (kg/ha)
`Total_duration_of_the_crop`	Total duration of the crop (in days)

Value

Production efficiency (kg/ha/day)

References

Kumar, M., Rajkhowa, D.J., Meena, K.L., Rakesh, K., Zeliang, P.K., Kikon, E.L., Rangnamei, K.L., Namei, A., 2017. Effect of nutrient management in lowland rice for improving productivity, profitability and energetics under the mid hill of Nagaland. J. AgriSearch 4, 247–250.\ Dutta, S. K., Layek, J., Yadav, A., Das, S. K., Rymbai, H., Mandal, S. & Mishra, V. K. (2023). Improvement of rooting and growth in kiwifruit (Actinidia deliciosa) cuttings with organic biostimulants. Heliyon, 9(7).

Examples

```
Grain_yield <- 8.67
Total_duration_of_the_crop <- 270
prod_eff(Grain_yield, Total_duration_of_the_crop)
```

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