That's a Big Ass Chicken: Care and Management of Large Chicken Breeds for Optimal

Health and Productivity

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Author roles were classified using the Contributor Role Taxonomy (CRediT;

https://credit.niso.org/) as follows: Karen Veronica Becerra: conceptualization, formal anlaysis,

methodology, project administration, software, visualization, editing; Kristen M. Johnson:

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Abstract

This study investigates the growing phenomenon of backyard chicken keeping in urban and suburban environments, a practice that has gained significant momentum amid rising commercial egg prices. Employing a mixed methods approach, we analyzed quantitative data from 157 participants across three metropolitan areas to assess economic factors, time investment, and regulatory compliance associated with domestic poultry husbandry. Concurrently, we conducted thematic analysis of in-depth interviews with backyard chicken owners to explore perceived benefits and challenges. Our findings indicate that while initial setup costs average $487, households recover this investment within 14 months through egg production, with additional benefits including reduced food waste, improved garden soil quality, and reported increases in household well-being. Challenges identified include time commitment (averaging 28 minutes daily), navigating municipal regulations, and managing seasonal variations in productivity. Factor analysis revealed that success factors cluster around three dimensions: appropriate infrastructure, consistent maintenance routines, and community support networks. Ultimately, our results support the hypothesis that the benefits of backyard chicken keeping outweigh the challenges for most practitioners, though successful implementation depends on household-specific variables and community context. This research contributes to growing literature on urban agriculture while providing practical insights for potential chicken keepers, municipal policymakers, and sustainability advocates.

Keywords: chickens, backyard, eggs, pros and cons

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Current Study

Method

Results

```
Loading required package: tidyverse


-- Attaching core tidyverse packages ----------------------- tidyverse 2.0.0 --
v dplyr     1.1.4      v purrr     1.0.2
v forcats   1.0.0      v stringr   1.5.1
v ggplot2   3.5.1      v tibble    3.2.1
v lubridate 1.9.4      v tidyr     1.3.1
-- Conflicts ------------------------------------------- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to


# A tibble: 6 x 4
  weight  Time Chick  Diet
   <int> <int> <int> <int>
1     42     0     1     1
2     51     2     1     1
3     59     4     1     1
4     64     6     1     1
5     76     8     1     1
6     93    10     1     1
```
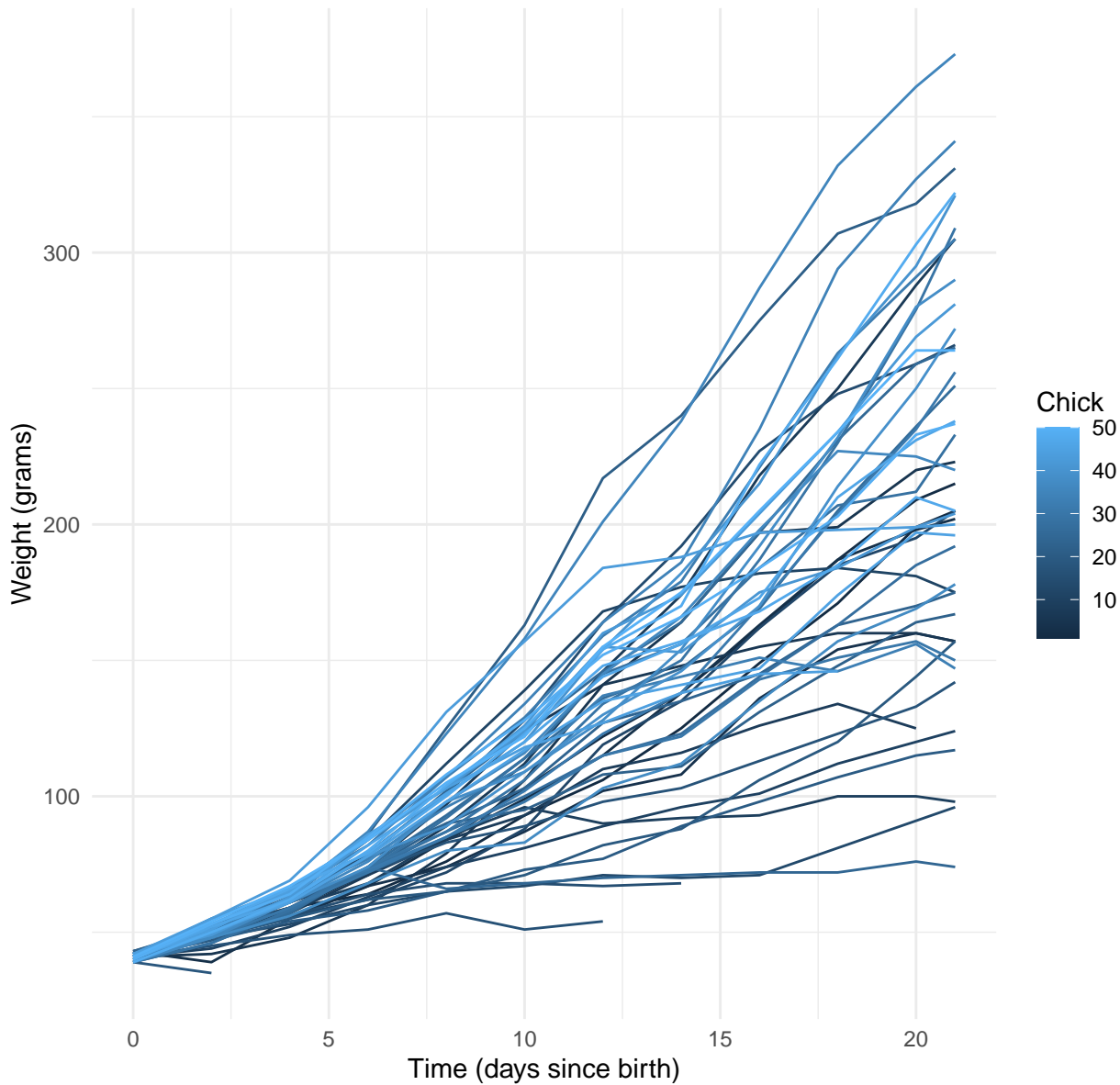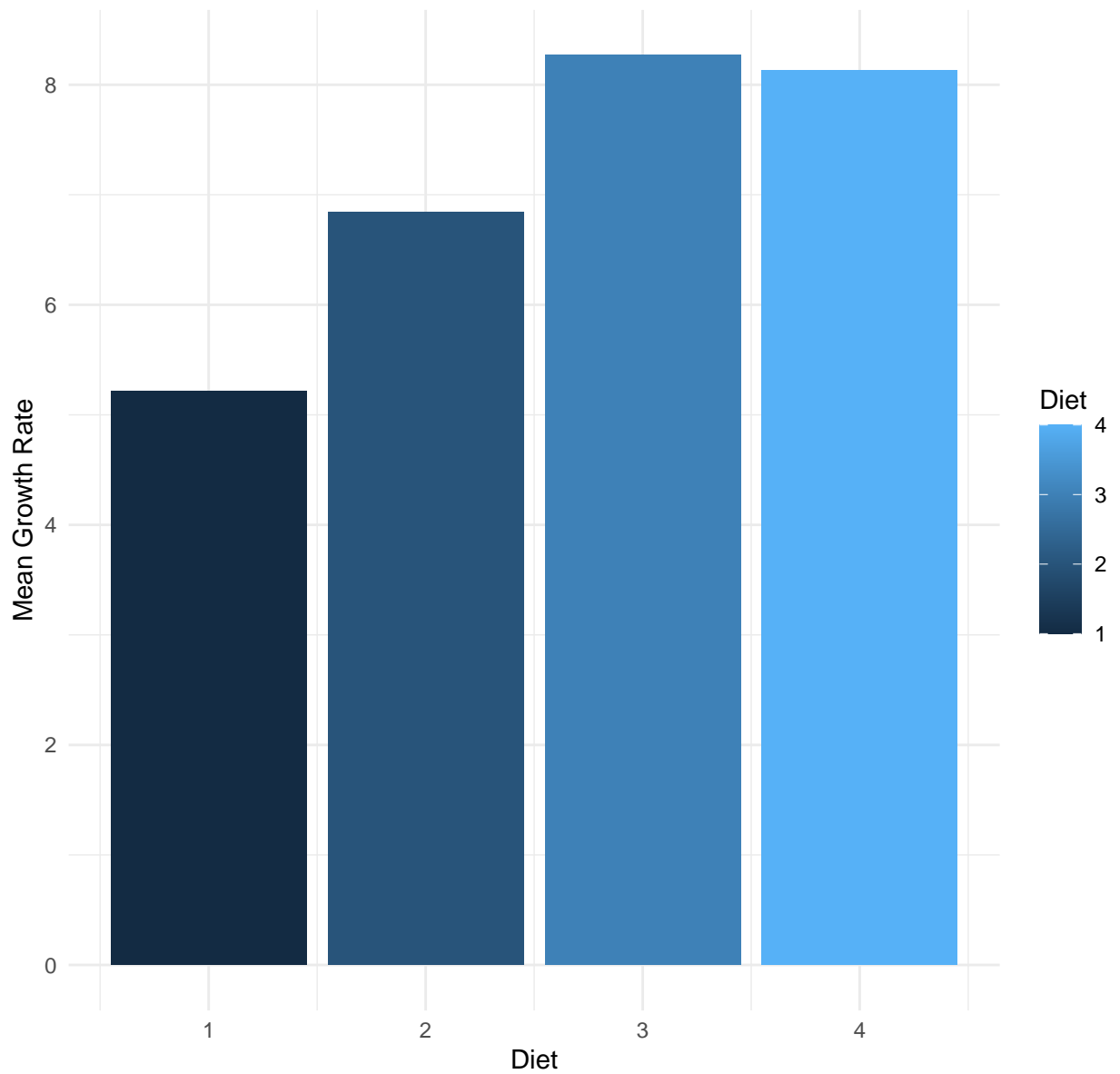
Figure 1: Plot of Chicken Growth


```
# A tibble: 4 x 2

    Diet meanGrowRate

   <int>       <dbl>

1      1        5.21

2      2        6.84

3      3        8.27

4      4        8.13
```

Figure 2: Mean Growth Rate Bar Plot (rate per day)


```
Call:

lm(formula = Weight ~ Time + Diet, data = chicken_data)


Residuals:

    Min       1Q    Median      3Q       Max

-135.172  -17.154   -2.192   15.561   152.049
```

```
Coefficients:

            Estimate Std. Error t value Pr(>|t|)

(Intercept)   1.5428     4.0430   0.382    0.703

Time          8.7653     0.2246  39.030   <2e-16 ***

Diet         11.7786     1.3054   9.023   <2e-16 ***

---

Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Residual standard error: 36.45 on 575 degrees of freedom

Multiple R-squared:  0.7379,    Adjusted R-squared:  0.7369

F-statistic: 809.2 on 2 and 575 DF,  p-value: < 2.2e-16
```
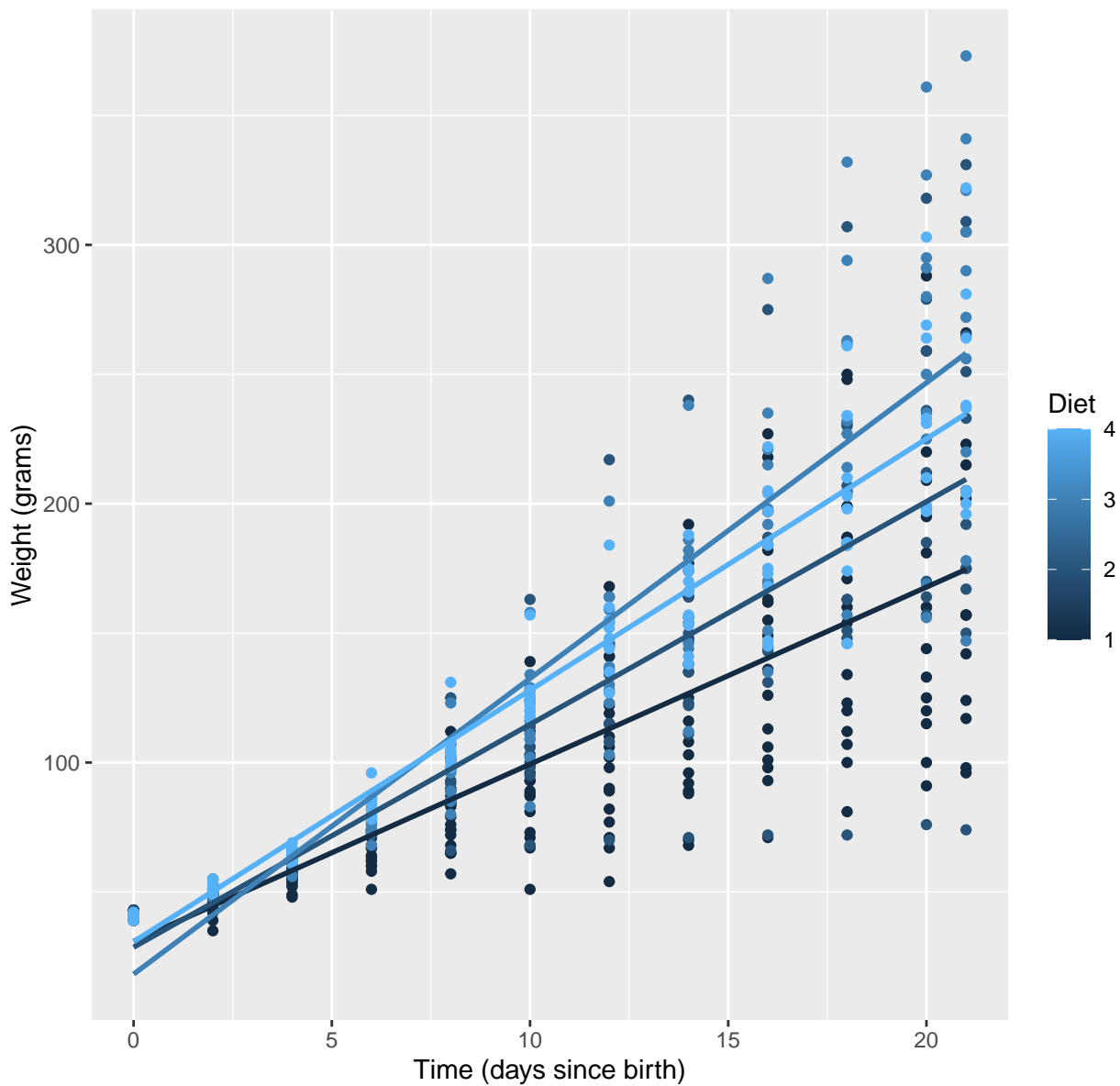
```
`geom_smooth()` using formula = 'y ~ x'
```

Figure 3: Regression of Weight on Time by Diet

Discussion