# Idaho weight scaling project: Update

## Timber Measurements Society Meeting 2016

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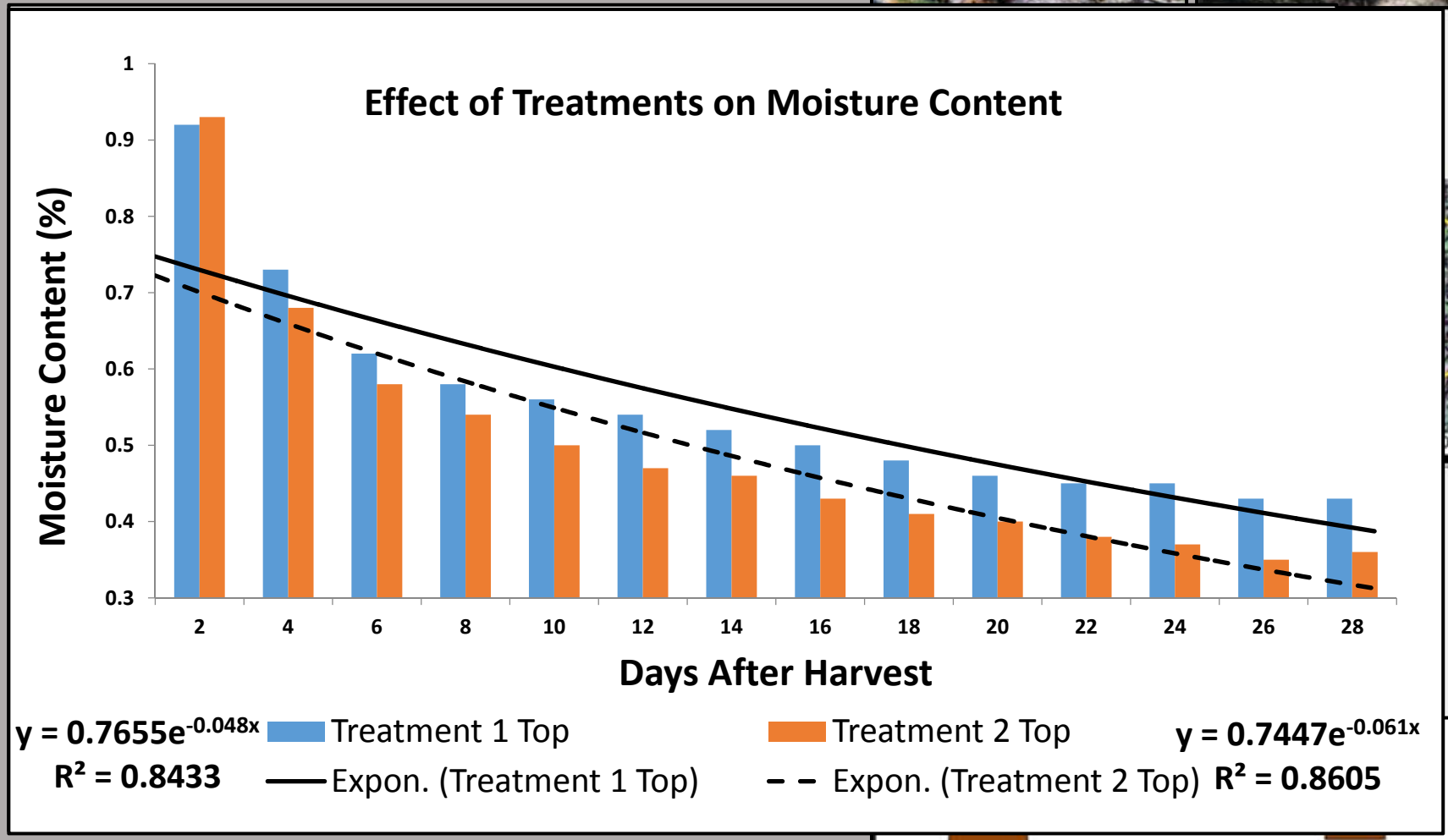
# Moisture loss in felled Douglas-fir with respect to harvest method





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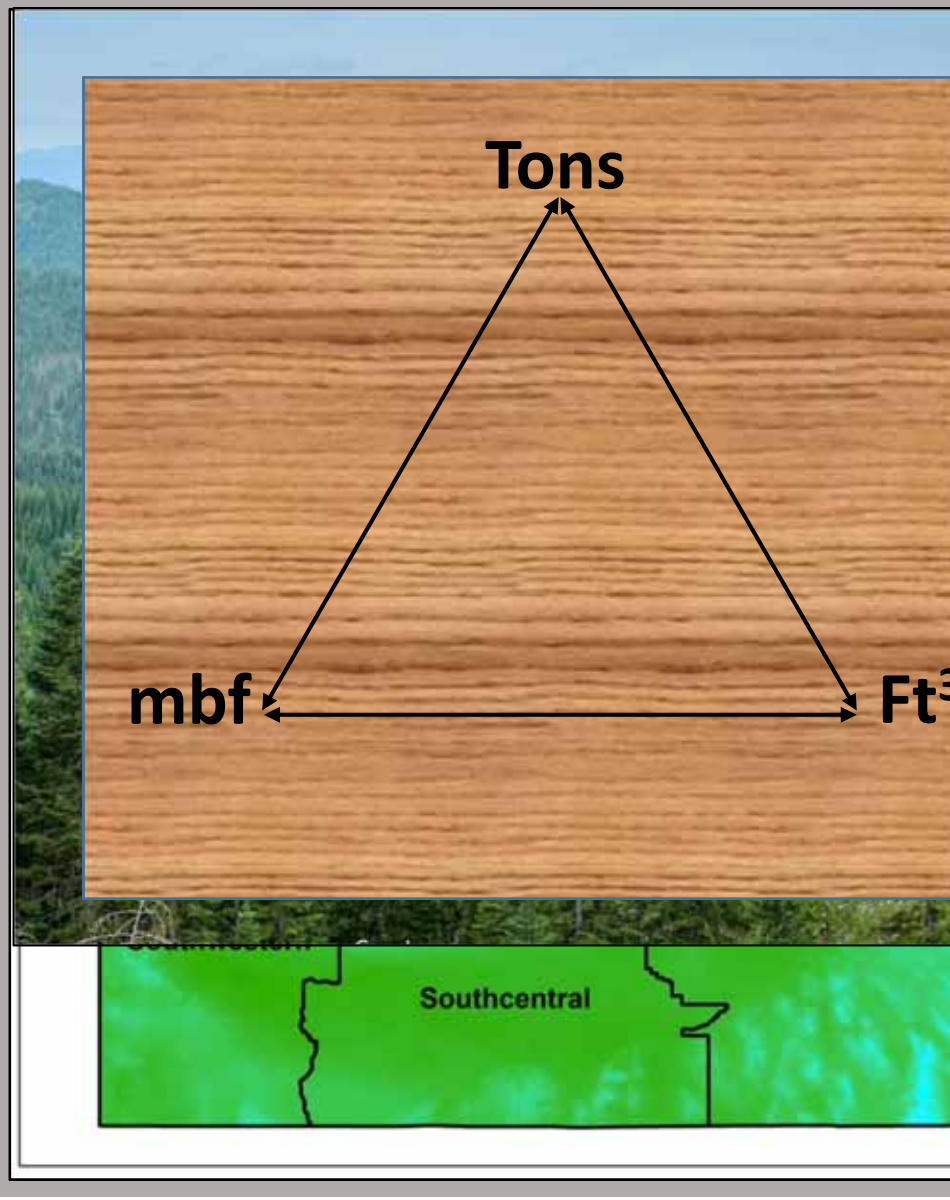
# Developing Weight:Volume (W:V) Relationships for Idaho

- 7900 scaled loads
- Investigated climate, site, species factors
- Make conversions more accurate and clear



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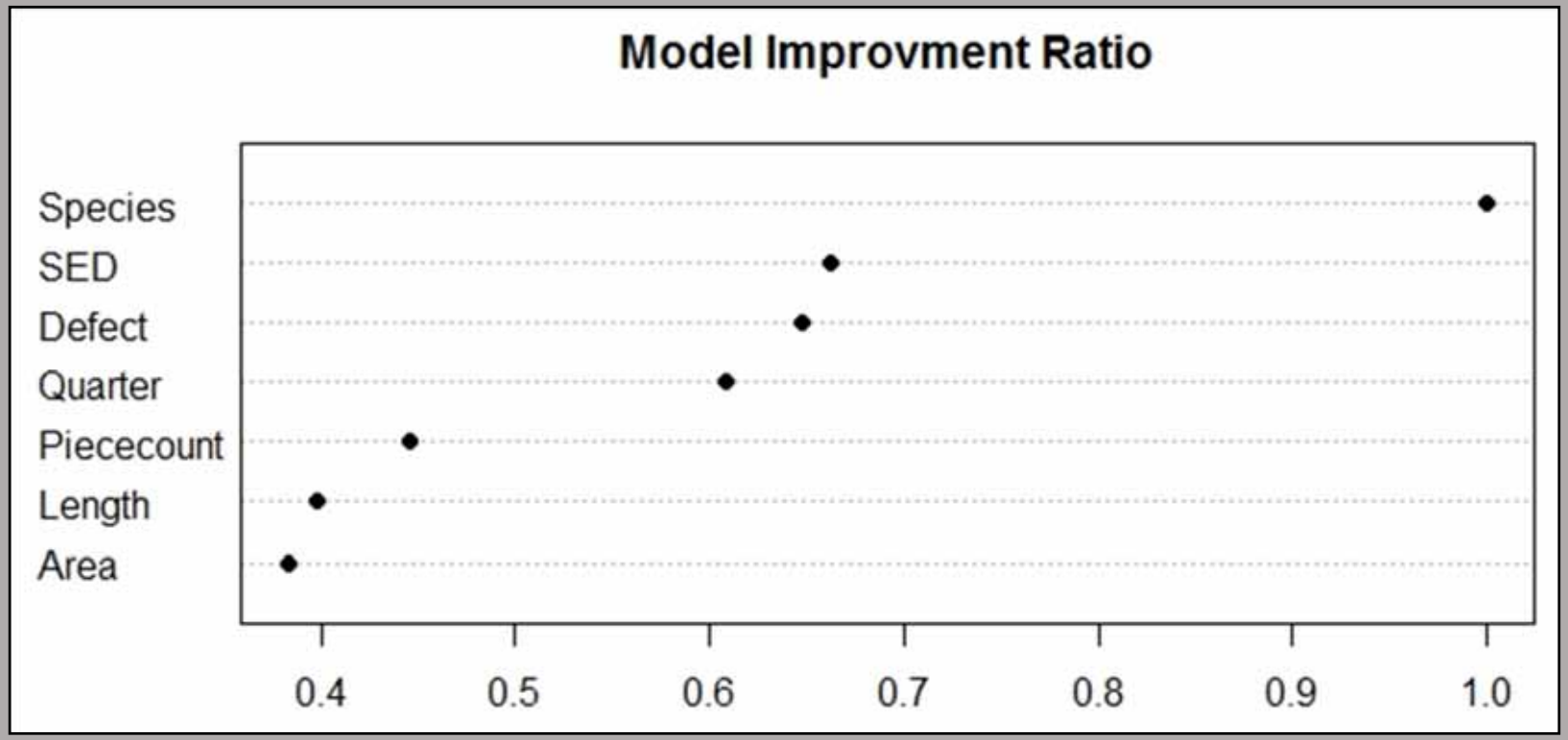
# Study Results




Quarter was used as a surrogate for precipitation and temperatu

Harvest Area was not found to be a significant predictor

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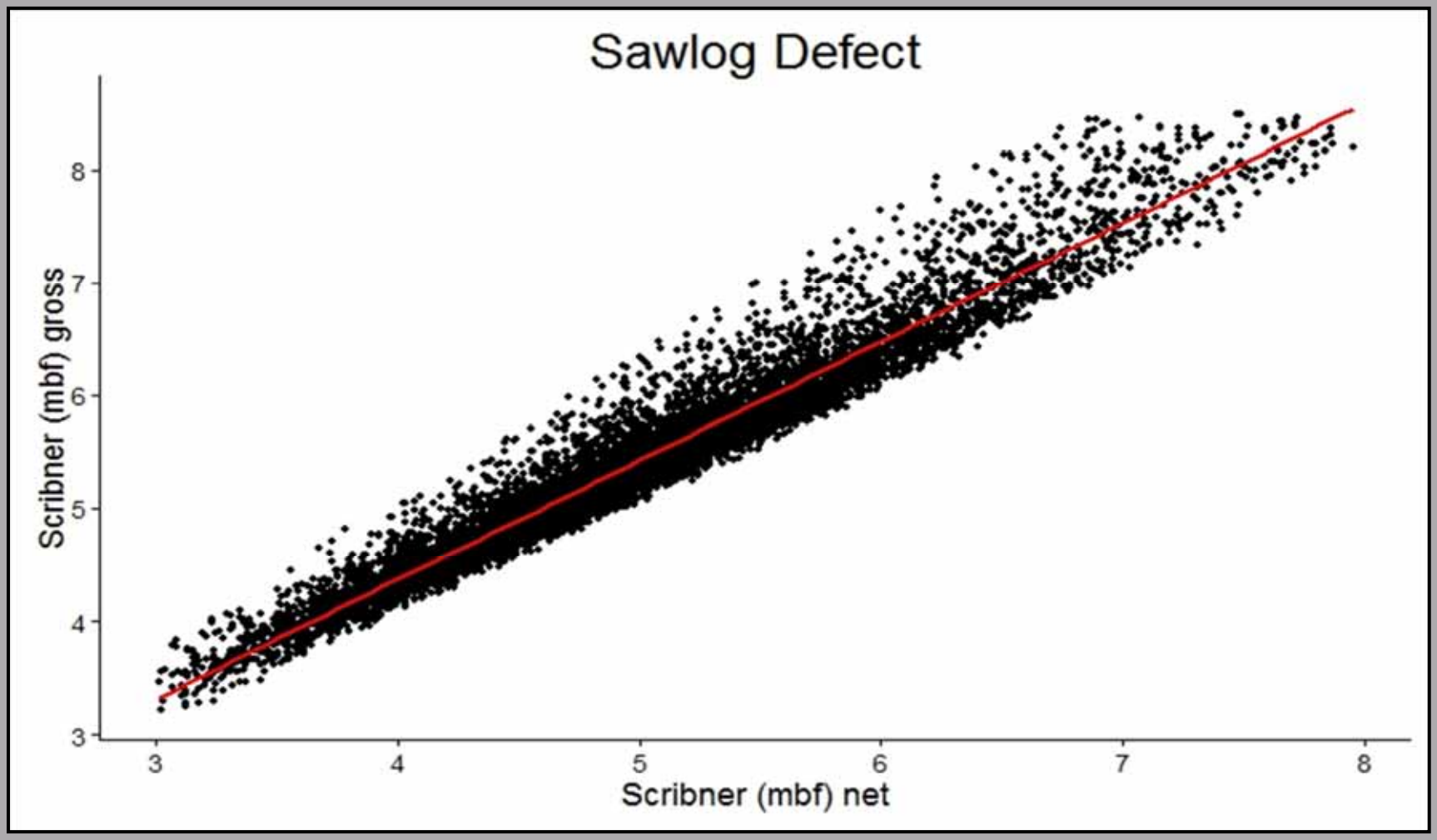


**Defect was not significantly different across species, area, season**

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| Species Sort | Mean Load Volume (mbf) | RMSE | +/- (p<.05) (%) |
|---|---|---|---|
| WRC | 6.27 | .5677 | 9.0 |
| DFL | 5.41 | .2026 | 3.7 |
| GFHAF | 5.24 | .2203 | 4.2 |
| LPPP | 5.30 | .3097 | 5.8 |

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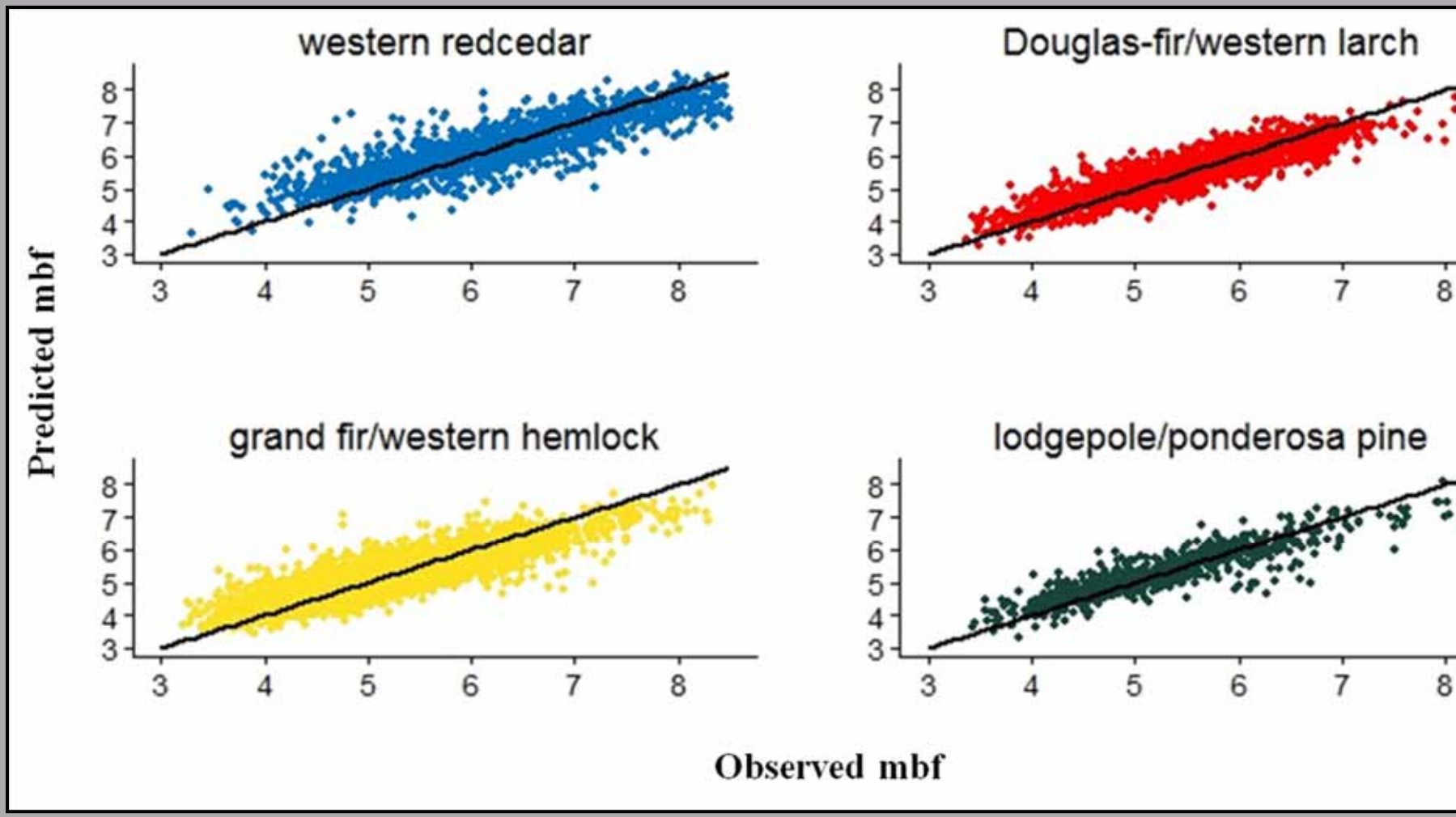


Variation between observed and predicted values of net truckload volun

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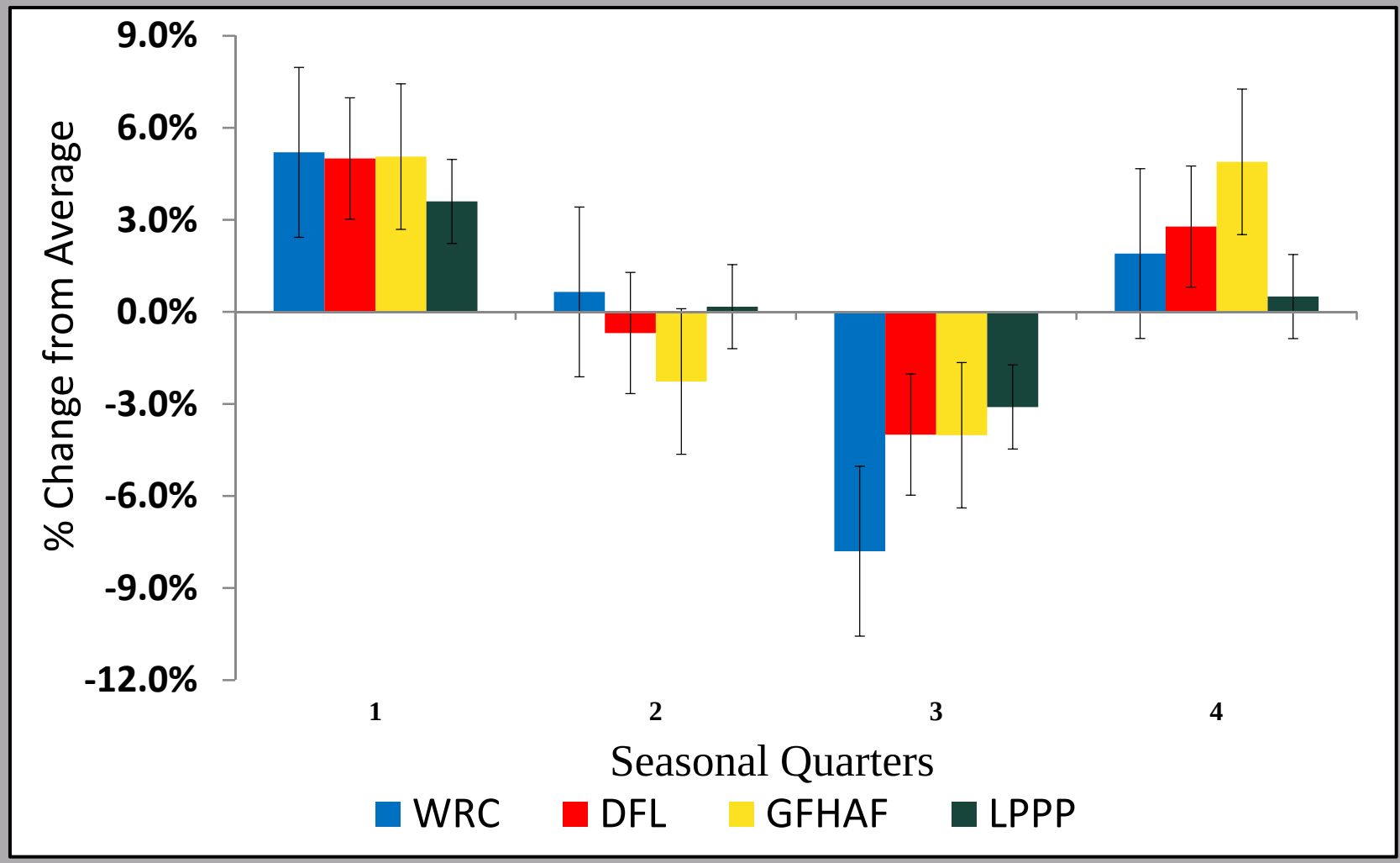


**% change in W:V relationship of each species sort compared to their yearly average W:V**

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# UI Weight
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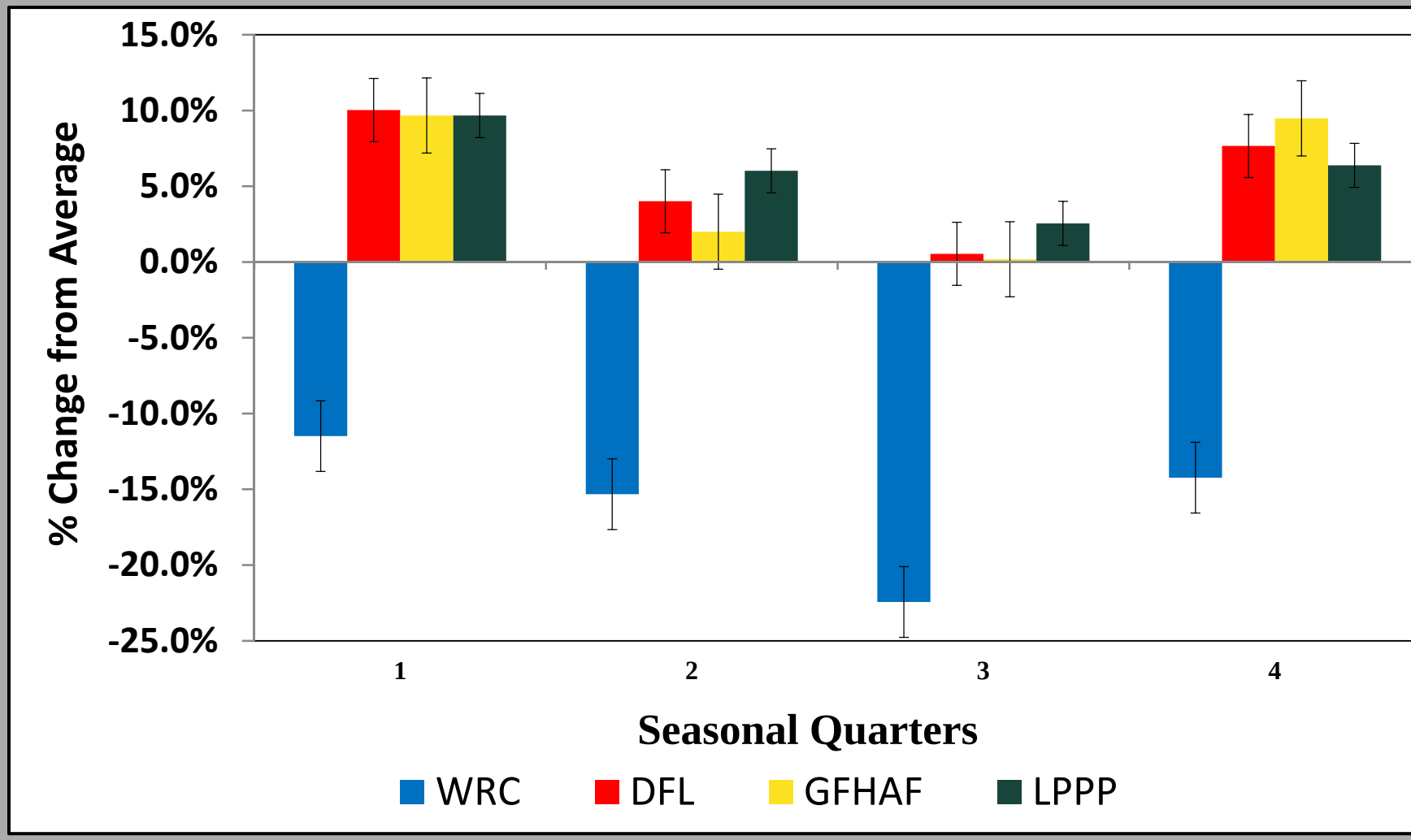


**% change in W:V relationship of each species sort compared to the current IDL state average of 5.48 tons/mbf**

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## dy Update

- 30% of state sales sold on ton basis, including everything south of the Salmon River
- Continually adding sample loads to the database to improve relationship
- W:V relationships derived by species and management area
- Working to expand weight scaled products to include cedar poles
- Cedar products still limited by availability of on-site scales

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- Educating buyers and mills remains a prominent goal
- Conducting tests on salvage logs from burned areas
- Foresters are encouraged to sell timber sales by weight
- Statewide effort to shift cruise and scaling volumes to cubic
- Re-evaluating timber sale contract wording, providing volumes in cubic and mbf to accommodate buyers

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## Operator Practices

- Purchasers more aware of time in deck
  - Consistent effort to deliver <1 month
- Utilizing +/- 3 yr. harvest contracts to maximize wood weight
- Shifting operations seasonally to benefit log weight and deck time

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- Assessing effects of weight on salvage logs
  - Beetle killed
  - Fire salvage
- Dealing with genetic variation
- Working to expand weight scaled products (cedar poles, cedar products)
- Shifting towards a cubic system
- Reducing sample scaling ratios as W:V relationships become better

# Citations and Acknowledgements


Saralecos, J.D., Keefe, R.F., Brooks, R.H., Tinkham, W.T., Smith, A.M.S., and Johnson L.R. 2014. Effects of harvesting systems and bole moisture loss on weight scaling of Douglas-fir sawlogs (Pseudotsuga menziesii). *Forests.*5:2289-2306.

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Saralecos, J.D. and Brooks, R.H. 2014. Weighing Your Options: Understanding Weight Scaling. Idaho Farm Bureau, Gem State Producer. 18:5 18-19pp.


# Questions?