You Can't Grow Ontologies in Bad Soil

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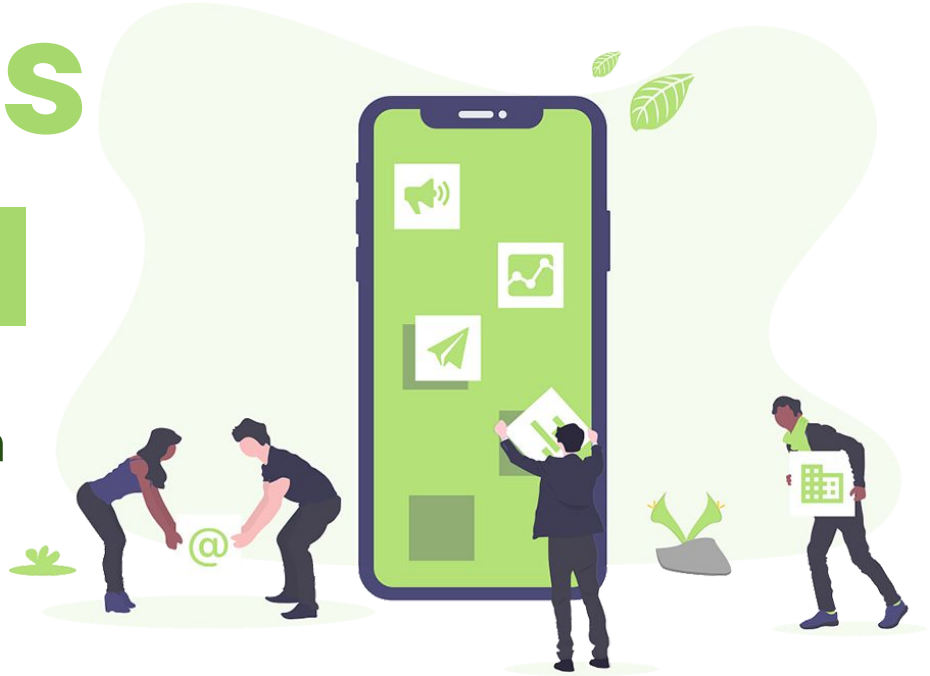
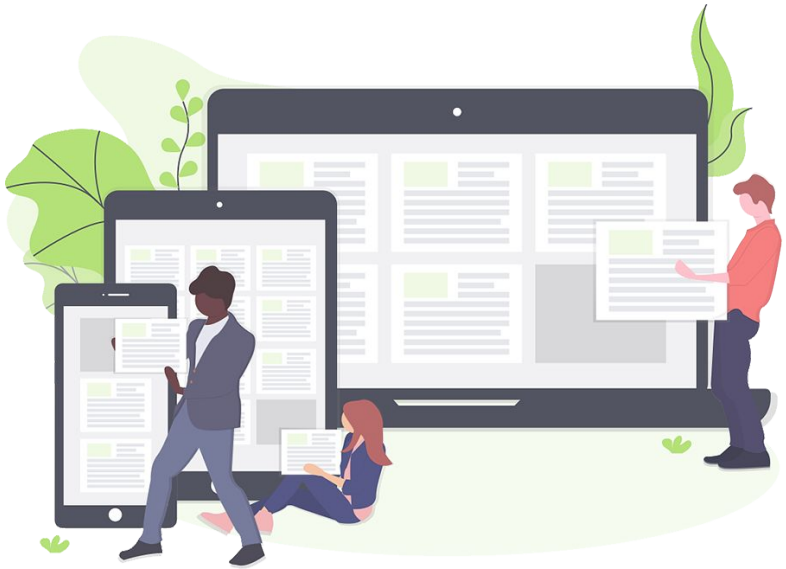


Ontologies in Agricultural Traceability

1. **Vernacular, Agriculture, Trade and Scientific**
2. Context Sensitive Description
3. Complicated Data Entry



Which would you choose?

Zea Mays ('SE' Bi-Color Type) 1560

Operational Modelling

Wheat		
Classical Scientific	**Commercial / Regulatory**	**Agronomy / Farm**
Triticum turgidum L. var *durum*	Canadian Western Amber Durum	Strongfield
Triticum aestivum L.	Hard Red Spring Wheat	Carberry

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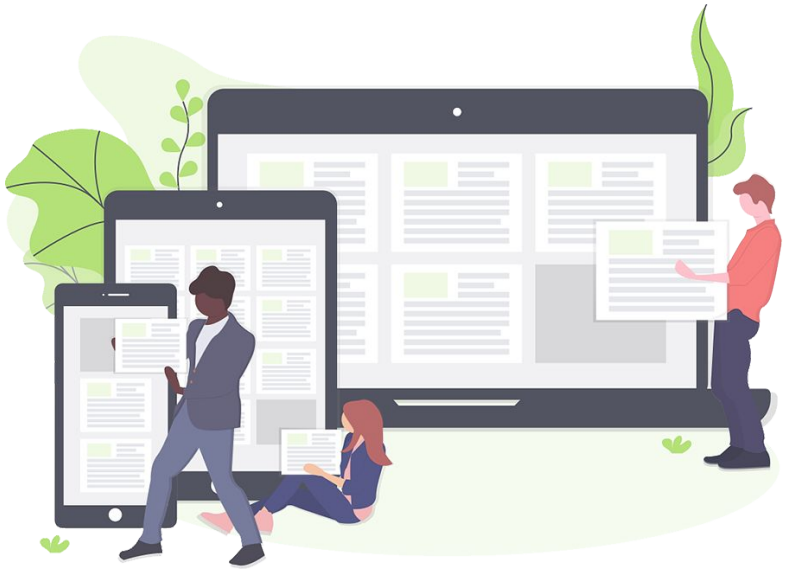
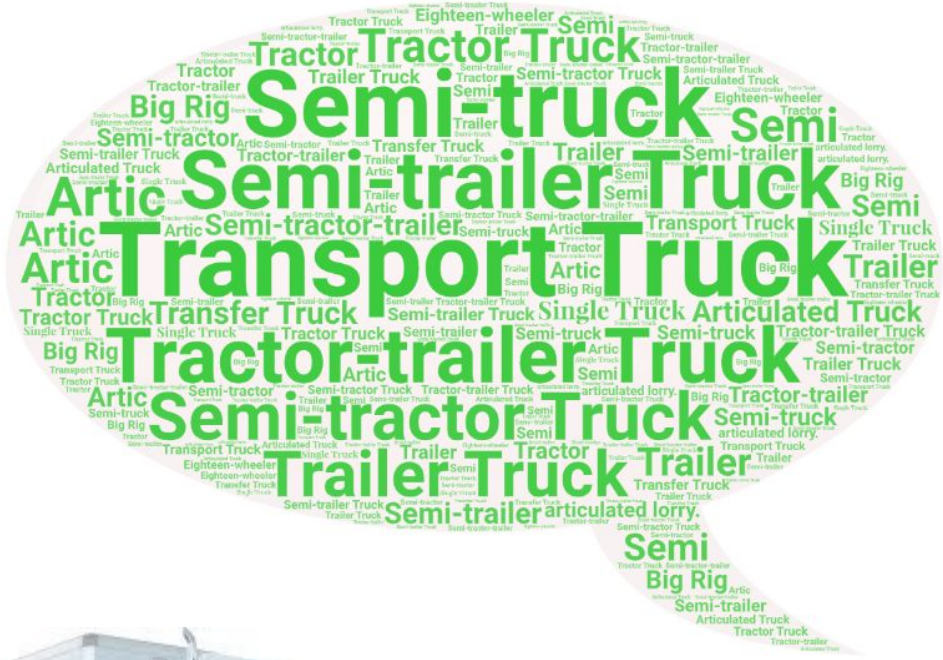
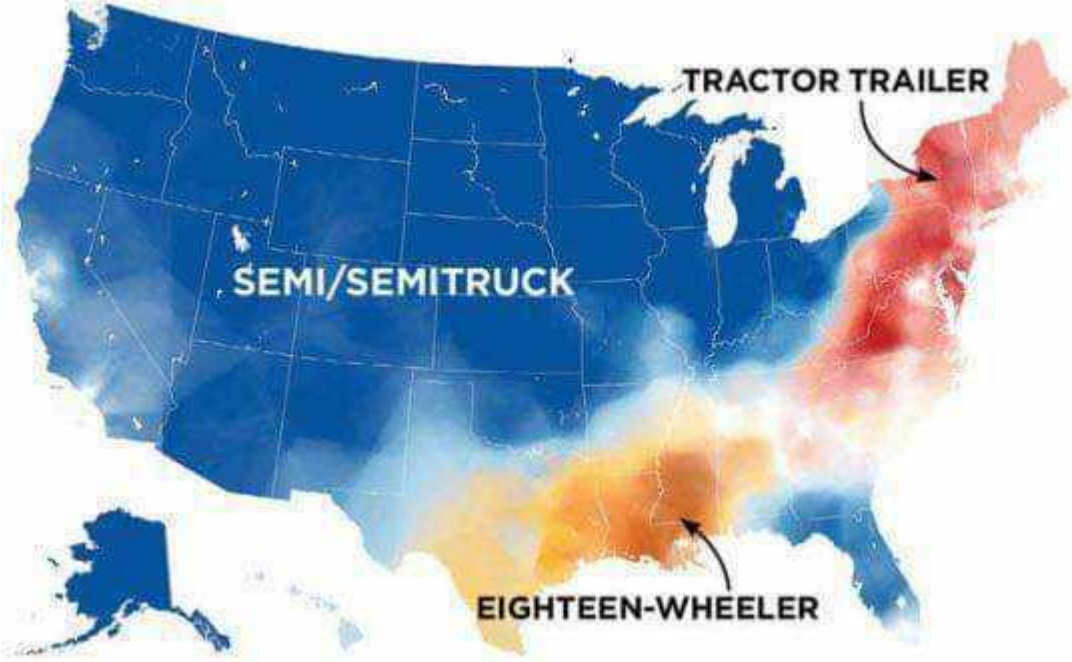


Corn

Maize


Semi-truck
Semi-trailer Truck
Transport Truck
Tractor-trailer Truck
Semi-tractor Truck
Trailer Truck
Tractor Truck
Artic
Big Rig
Semi
Semi-tractor-trailer
Transfer Truck
Single Truck
Articulated Truck
Tractor-trailer
Trailer
Semi-trailer
Eighteen-wheeler
Transport Truck
Semi-trailer Truck
Articulated lorry.



Speaking American: How Y'all, Youse, and You Guys Talk: A Visual Guide, 2016

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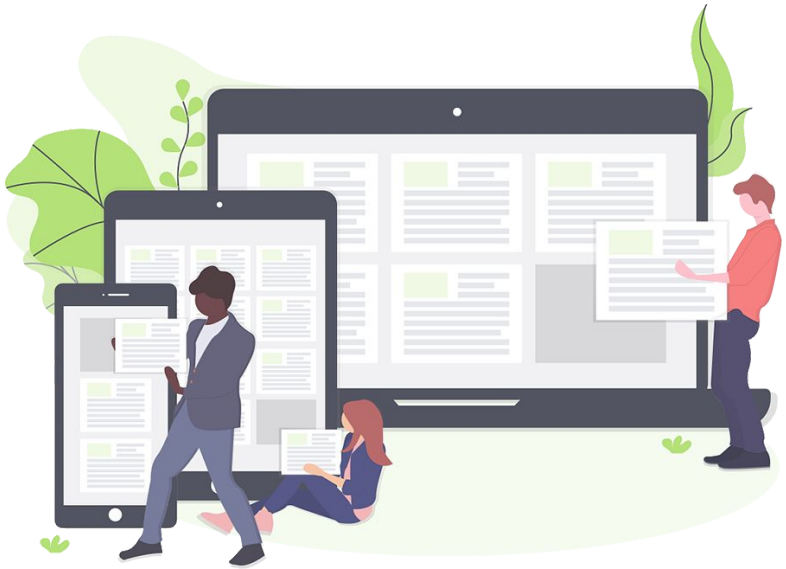
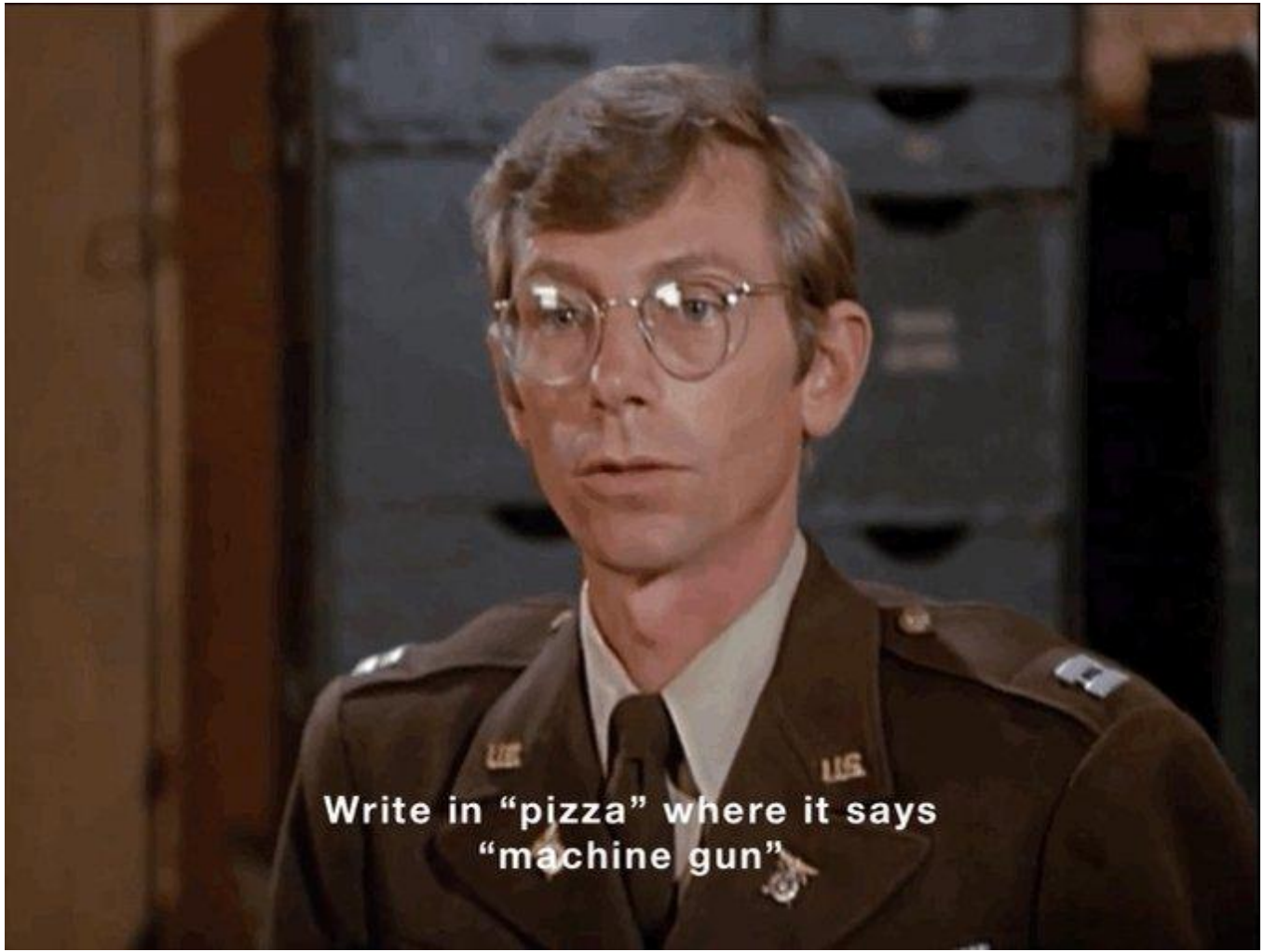


I moved my grain with a tractor...

- Data entry is largely ad hoc with the context kept mostly in people's heads.
- Weight of grain stored / moved is often an eyeball estimate.
- Vehicles can have up to two trailers attached, each with up to 4 hoppers (storage compartments), sometimes with different farms piggybacking on the same load. (Hundreds of combinations).
- Entering all that data is time consuming. Most farmers push back since it is immediately obvious to the person on the ground.


Write in “pizza” where it says
“machine gun”

Conclusion

- Regulatory paper burden increasing and record keeping practice is mismatched to needs (and not valued).
- Increased crop volumes and trade mean that your first mistake is your last. The horror stories about contaminated supply chains are real.
- This points to increased farming automation in the future and quite possibly forced automation: if people can't do the data entry,

  the machines must do it for them.

Operational ontologies...

The best kind of ontology is the kind that you don’t know you are using!

https://images.app.goo.gl/wRDeRjtbyns7j3hUA

http://rdf.ag/

- We are now shifting to ...beer and beer ingredient traceability.
- New repository for operationally focused agriculture ontologies.
- Heavy use of instances and varietals.
- Emphasis on documentation and citations.

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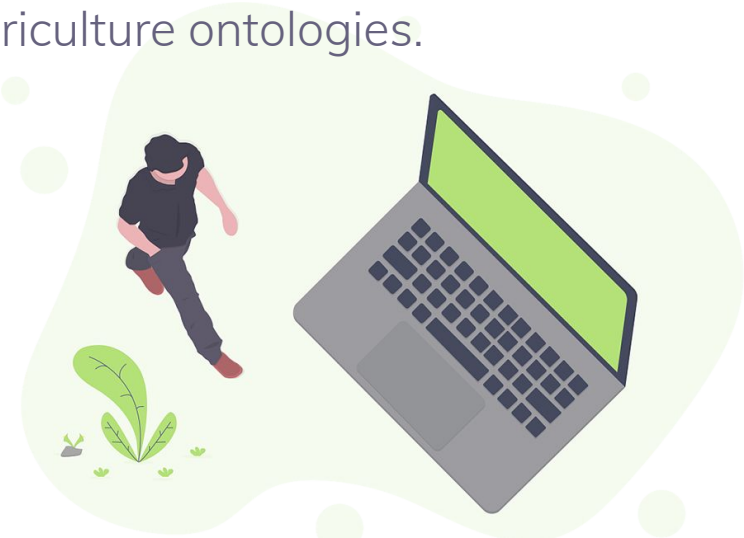

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