



Canadian Food  
Inspection Agency

Agence canadienne  
d'inspection des aliments

## Canadian Food Inspection Agency

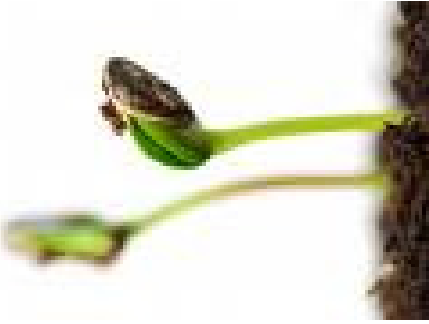


### Our Vision:

To excel as a science-based regulator, trusted and respected by Canadians and the international community.

### Our Mission:

Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.



## Virtual Seed Identification Referee

2015

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**Canada**



# Background

## Canadian Accredited Seed Analysts and Laboratories

- Minimum List of Species for Seed Identification
  - Species in the *Weed Seeds Order*
  - Crop species and disease bodies listed in Grade Tables I-XX of Schedule I of the *Seed Regulations*
  - Other weed species

## Objectives of the referee

- To conduct a training exercise for seed analysts
- To assist labs in identifying training needs for maintenance of proficiency in seed identification
- To provide data for a **future** revision of the minimum list





# Referee methods

- Species selection:
  - The “minimum list”, part III, other weeds
  - 25 photographs
- Participation
  - Individual analysts, accredited or not
  - Requested that the participants do the identifications independently
  - Resources are allowed, e.g., websites, reference materials
- Results
  - identify to genus, species to best of their ability





## Results: Participants



- 48 participants from Canada
  - Accredited purity analysts => 40
  - Non-accredited purity analyst => 8
  - Analysts from CFIA accredited labs=> 47
- 4 participants from the United States





**1. *Plantago rugelii***



**2. *Stachys palustris***



**3. *Ambrosia psilostachya***



**4. *Hibiscus trionum***





**5. *Berteroa incana***



**6. *Bromus tectorum***



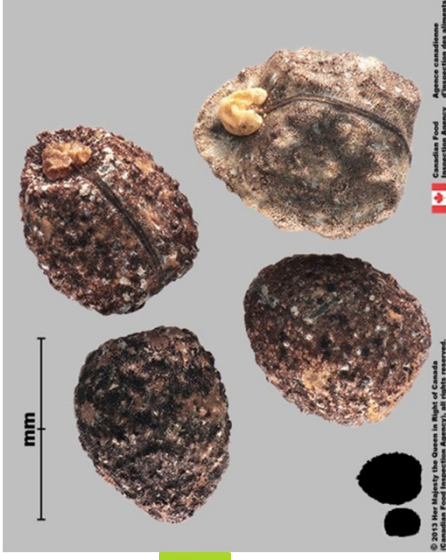
**7. *Persicaria lapathifolia***



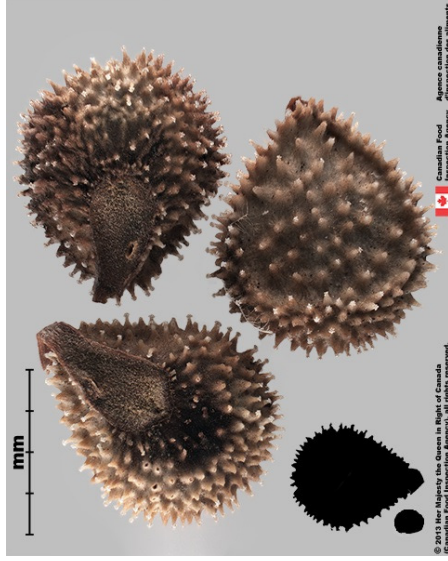
**8. *Glyceria* spp.**



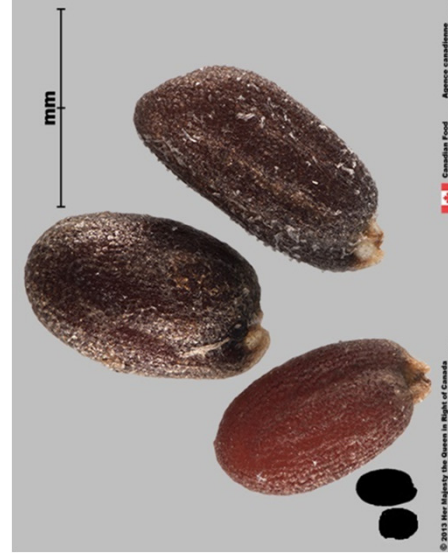
**9. *Cyclachaena xanthiifolia***



**10. *Euphorbia dentata***



**11. *Cynoglossum officinale***



**12. *Conringia orientalis***



**13. *Holcus lanatus***



**14. *Iva axillaris***



**15. *Melilotus indicus***



**16. *Poa alpina***

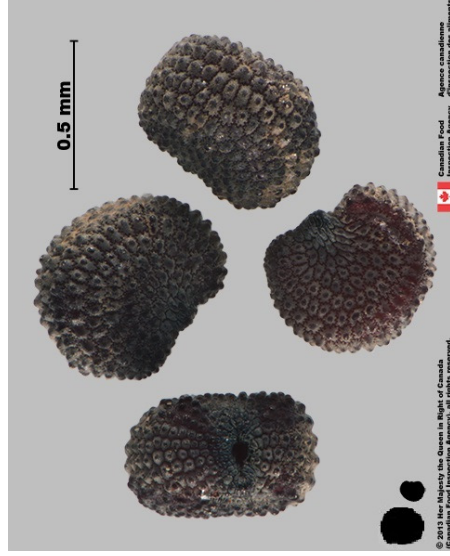




**17. *Ventenata dubia***



**18. *Agrostis scabra***



**19. *Silene antirrhina***





**20. *Astragalus miser***



**21. *Borago officinalis***



**22. *Cyperus esculentus***





**23. *Acalypha virginica***



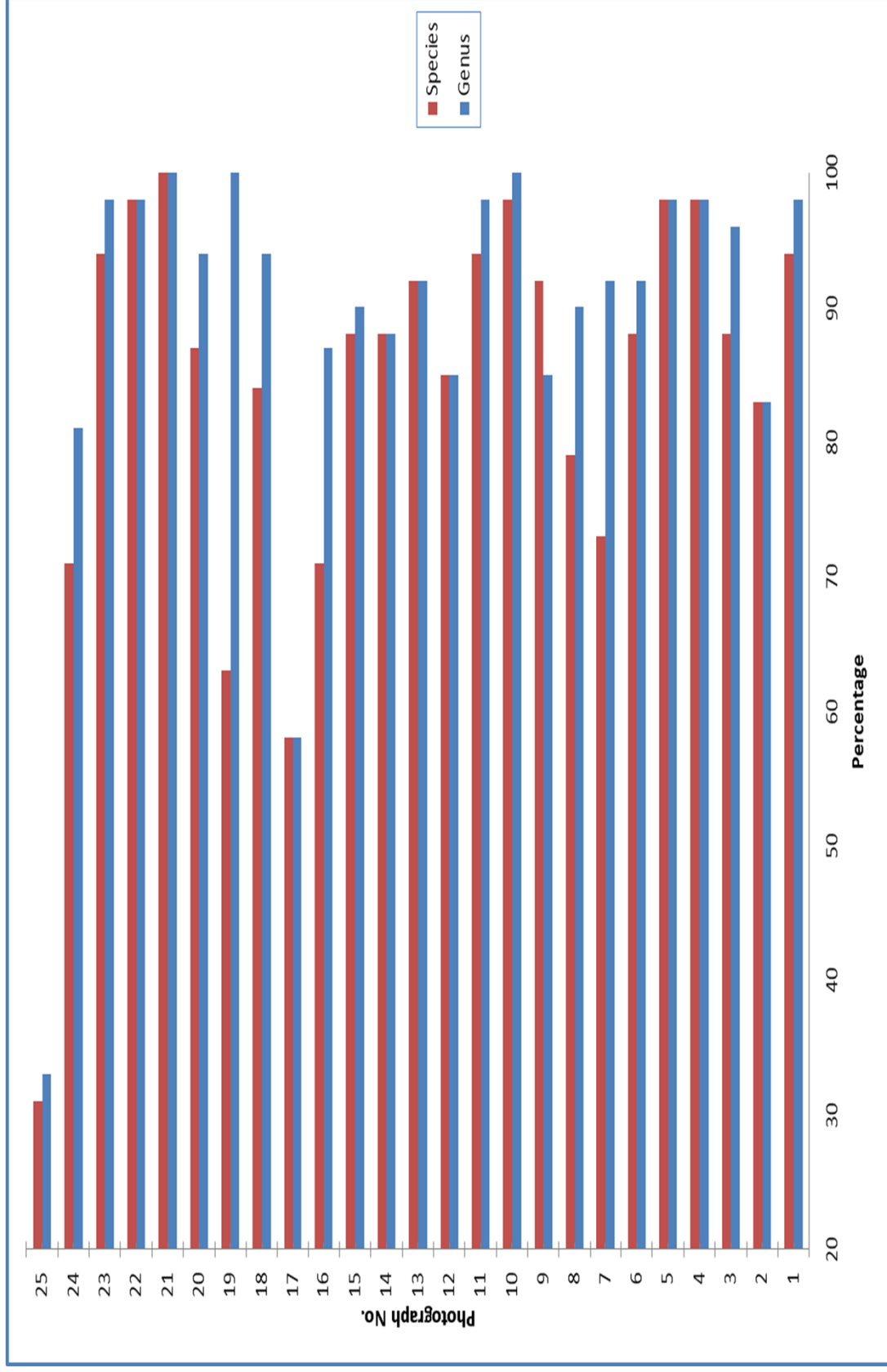
**24. *Rubus* spp.**



**25. *Diplotaxis* spp.**

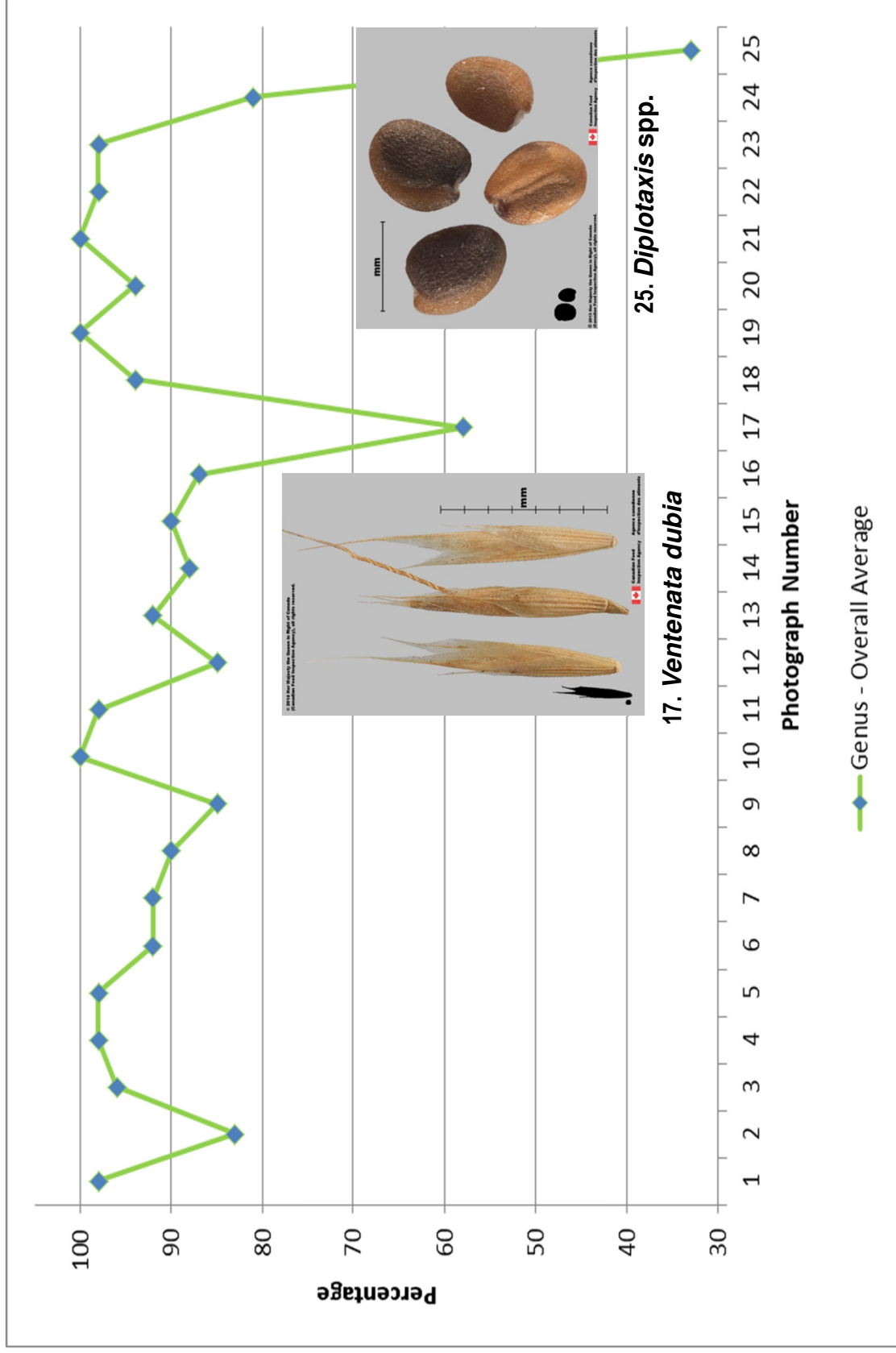


# Identification Percentage of all Participants using Genus and Species



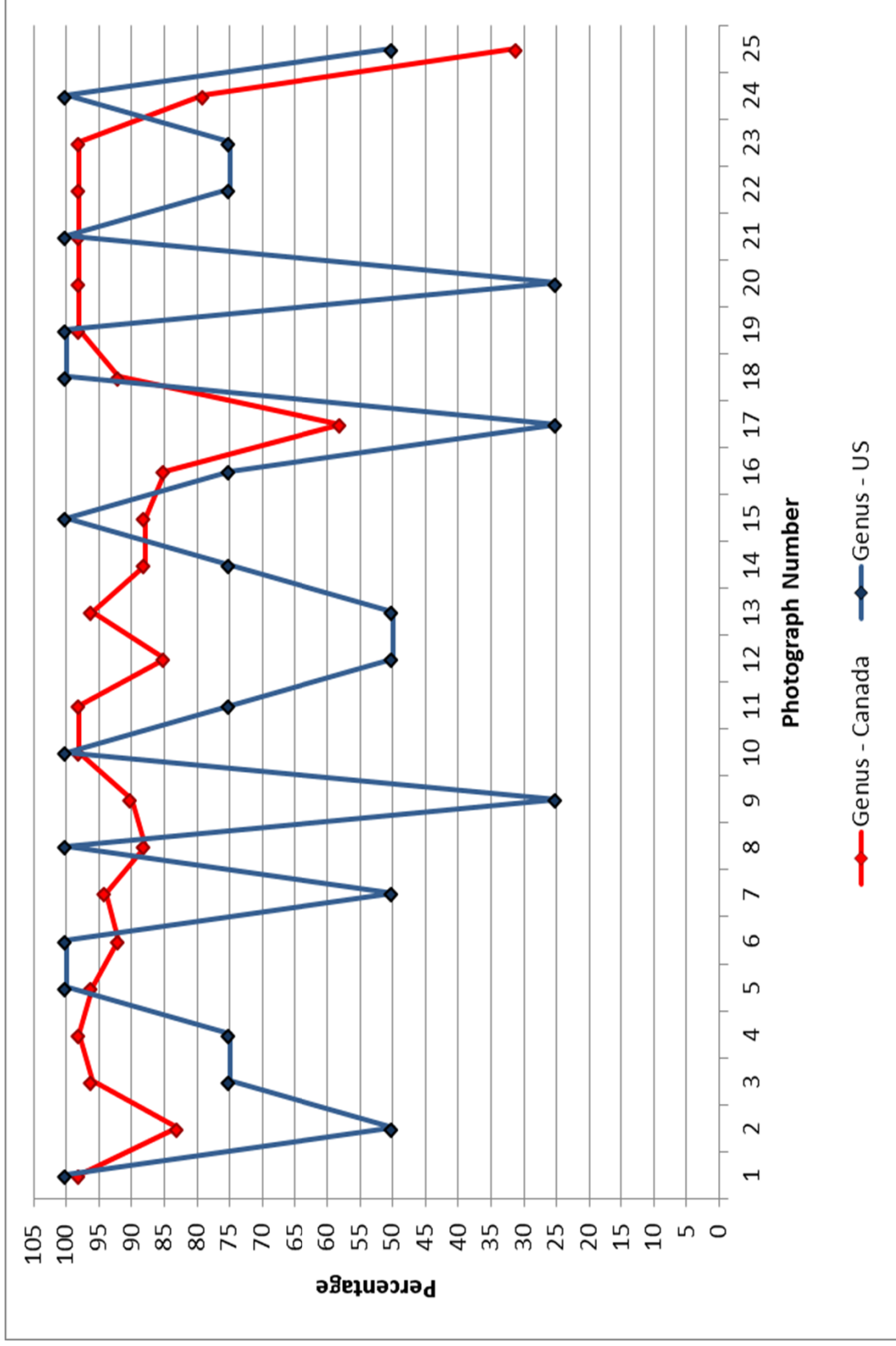


# Identification percentage of all participants to genus level



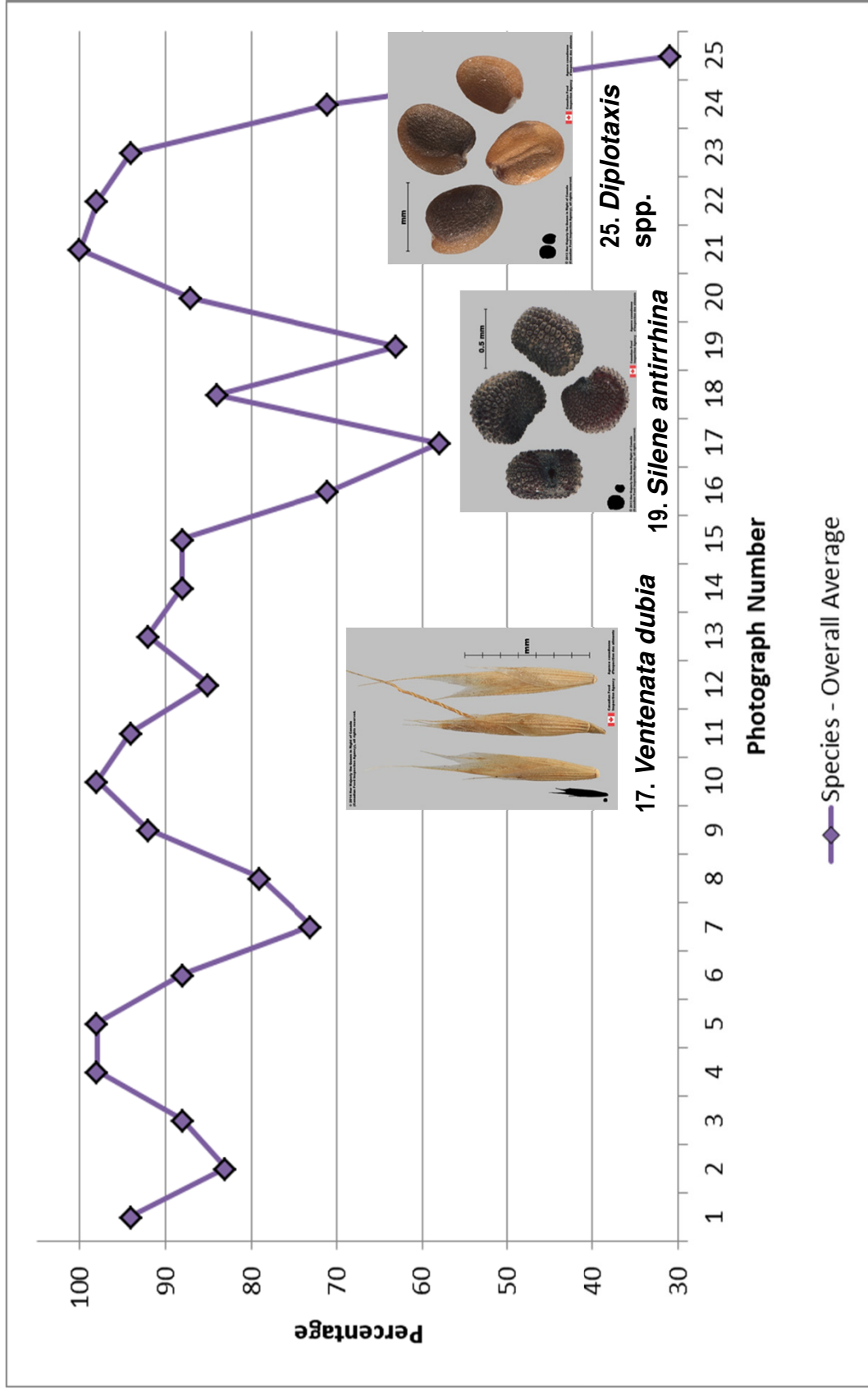


# Identification percentage of all participants to genus level – by country



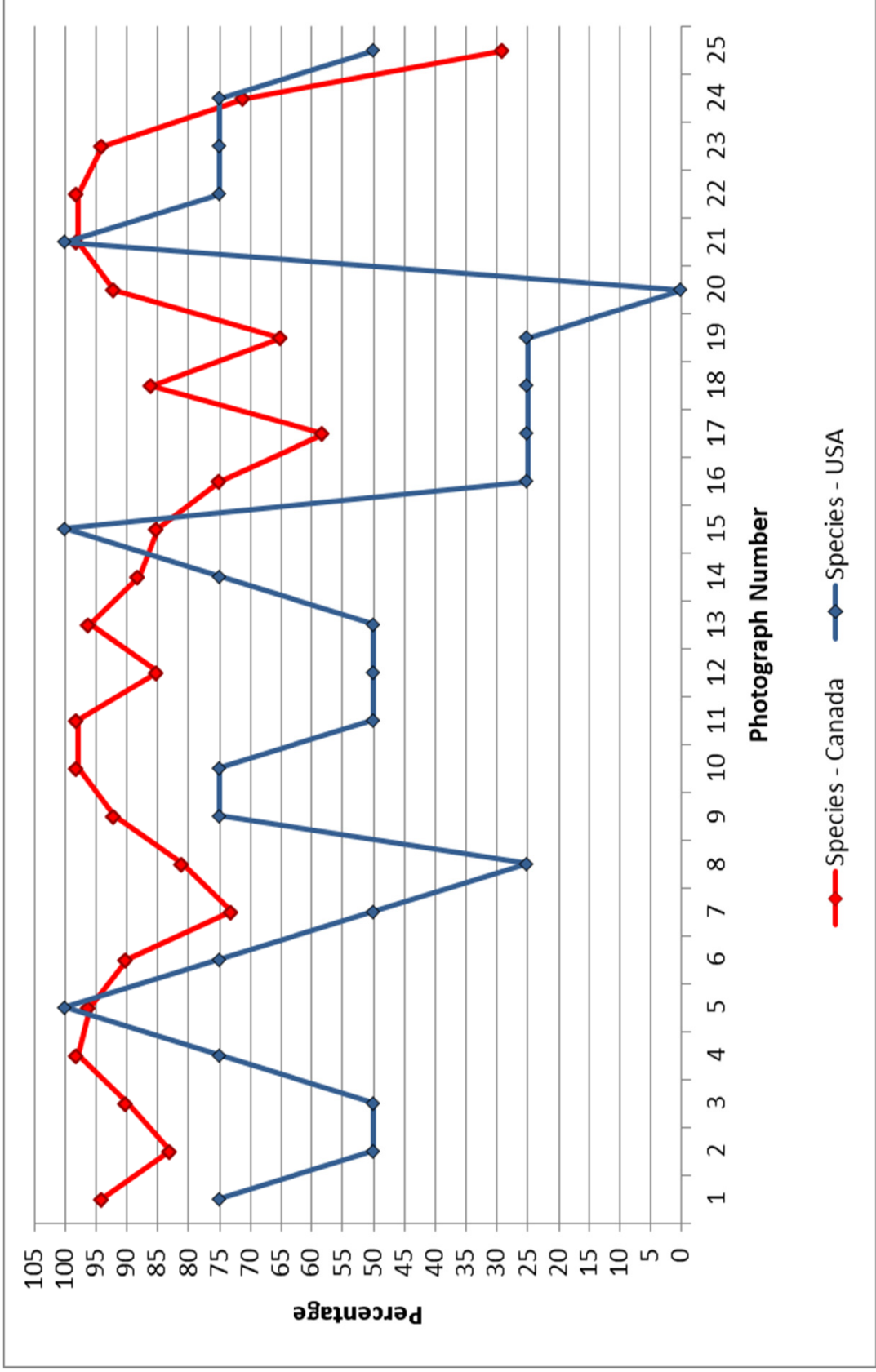


# Identification percentage of all participants to species or spp. level





# Identification percentage of all participants to species or spp. Level – by country







## ***Ventenata dubia* mistaken for:**

- *Arrhenatherum elatius*
- *Avena fatua*
- *Apera spica-venti*
- *Danthonia spicata*



No. 17



## ***Diplotaxis* spp. mistaken for:**

- *Triolium vesiculosum*
- *Eruca vesicaria*
- *Erucastrum gallicum*

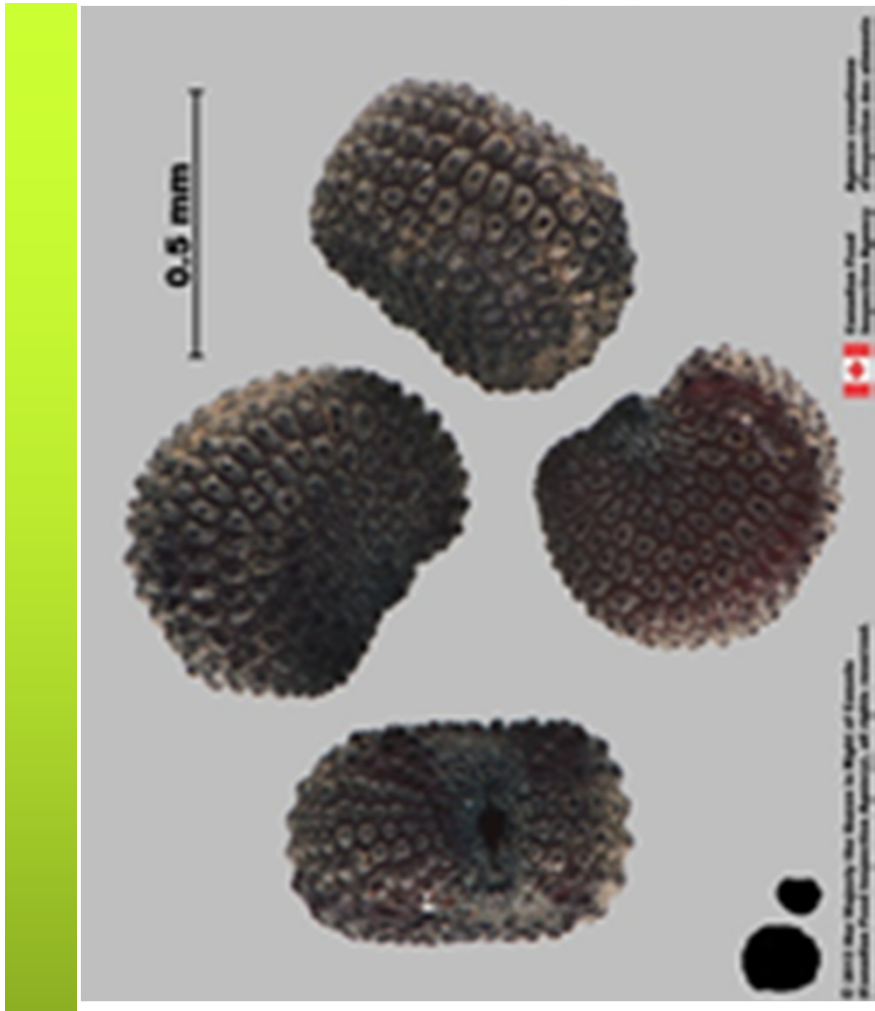


No. 25



# *Silene antirrhina* mistaken for:

- *Silene noctiflora*
- *Silene latifolia*



No. 19



# Spelling Errors

- Most common error (12% of participants) was the spelling of *Borago officianalis*, not *Borage officianalis*
- Other spelling errors included:

*Plantago rugelii*      *Poa alpina*

*Berteroa incana*      *Agrostis scabra*

*Bromus tectorum*      *Melilotus indicus*

*Cyclachaena xanthiifolia*      *Holcus lanatus*

*Euphorbia dentata*      *Conringia orientalis*





## Conclusions

- The seed identification proficiency to genus level for analysts was 90% or better on 17 of the 25 specimens.
- The seed identification proficiency to species level for analysts was 90% or better on 10 of the 25 specimens.
- Analysts had difficulty identifying:
  - Diplotaxis* spp.
  - Ventenata dubia*
  - Silene antirrhina*
- Need to review whether these species remain on the Minimum List or increase training for the identification of these species.





# Conclusions

## 3 year summary of Seed Identification Referees

Year	Difficult to Identify
2013	<i>Symphyotrichum</i> spp. , <i>Ranunculus repens</i> , <i>Papaver rhoeas</i> , <i>Malva parviflora</i> and <i>Arctium lappa</i>
2014	<i>Bromus jaпонicus</i> , <i>Koehlera macrantha</i> , <i>Atriplex</i> spp., <i>Geum</i> spp.
2015	<i>Diploaxis</i> spp., <i>Ventenata dubia</i> , <i>Silene antirrhina</i> . <i>Rubus</i> spp., <i>Poa alpina</i> , <i>Glyceria</i> spp. and <i>Persicaria lapathifolia</i>





# Next Steps

- Use this referee information to review the Minimum List
- Consult, refine and apply criteria to determine which species should be removed from the Minimum List
- Continued equivalence with the CSA/RST expectation for seed identification continues to be an important factor



**Thank you to all participants.**



# Canada

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