

# PHENOLOGY OF BROMUS TECTORUM

## AND ASSOCIATED SPECIES

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### INTRODUCTION

THE EXOTIC ANNUAL BRASS *BROMUS TECTORUM* HAS INVADDED MILLIONS OF HECTARES OF RANGELAND IN THE INTERMOUNTAIN WEST. BECAUSE IT INCREASES THE CHANCE OF IGNITION AND RATE OF SPREAD OF WILDFIRES, *BROMUS TECTORUM* INVASION HAS RESULTED IN THE DESTRUCTION OF NATIVE WOODY VEGETATION. THE ANNUAL GRASS IS SUCH A COMPETITIVE SPECIES FOR MOISTURE IT CLOSES COMMUNITIES TO THE RECRUITMENT OF SEEDLINGS OF NATIVE PERENNIAL SPECIES.

### BROMUS TECTORUM COMMUNITIES

*BROMUS TECTORUM* IS THE ASPECT DOMINANT OF VAST AREAS OF RANGELAND. THESE COMMUNITIES ARE FREQUENTLY REFERRED TO AS MONO-CULTURES OF *BROMUS TECTORUM*. IF YOU EXAMINE THESE "MONO-CULTURE" COMMUNITIES CLOSELY OVER A VARIETY OF SITES AND THROUGHOUT THE YEAR YOU WILL SOON DISCOVER A HOST OF EXOTIC SPECIES ARE COMPONENTS OF *BROMUS TECTORUM* COMMUNITIES OR PRE OR POST SUCCESSIONALLY TO THE ANNUAL GRASS.

### PURPOSE

OUR PURPOSE WAS TO COMPARE THE PHENOLOGY OF EXOTIC ANNUAL SPECIES FOUND IN *BROMUS TECTORUM* COMMUNITIES TO OBTAIN KNOWLEDGE ON HOW THIS ARRAY OF WEEDS CONTRIBUTES TO THE TRUNCATION OF SUCCESSION (Figure 1).

### METHODS

SEEDS OF THE VARIOUS EXOTIC ANNUALS WERE COLLECTED FROM *BROMUS TECTORUM* COMMUNITIES. POTS 60 L IN VOLUME WERE FILLED WITH A SANDY LOAM SOIL. ON NOVEMBER 1, 2004, 25 SEEDS WERE PLANTED IN EACH POT. THERE WERE 4 REPLICATIONS, ARRANGED IN A RANDOMIZED BLOCK DESIGN. PHENOLOGY NOTES WERE TAKEN WEEKLY. THE POTS WERE OUTDOORS AT RENO, NV. ALL POTS WERE WATERED AS NEEDED UNTIL THE PLANTS WERE MATURE.

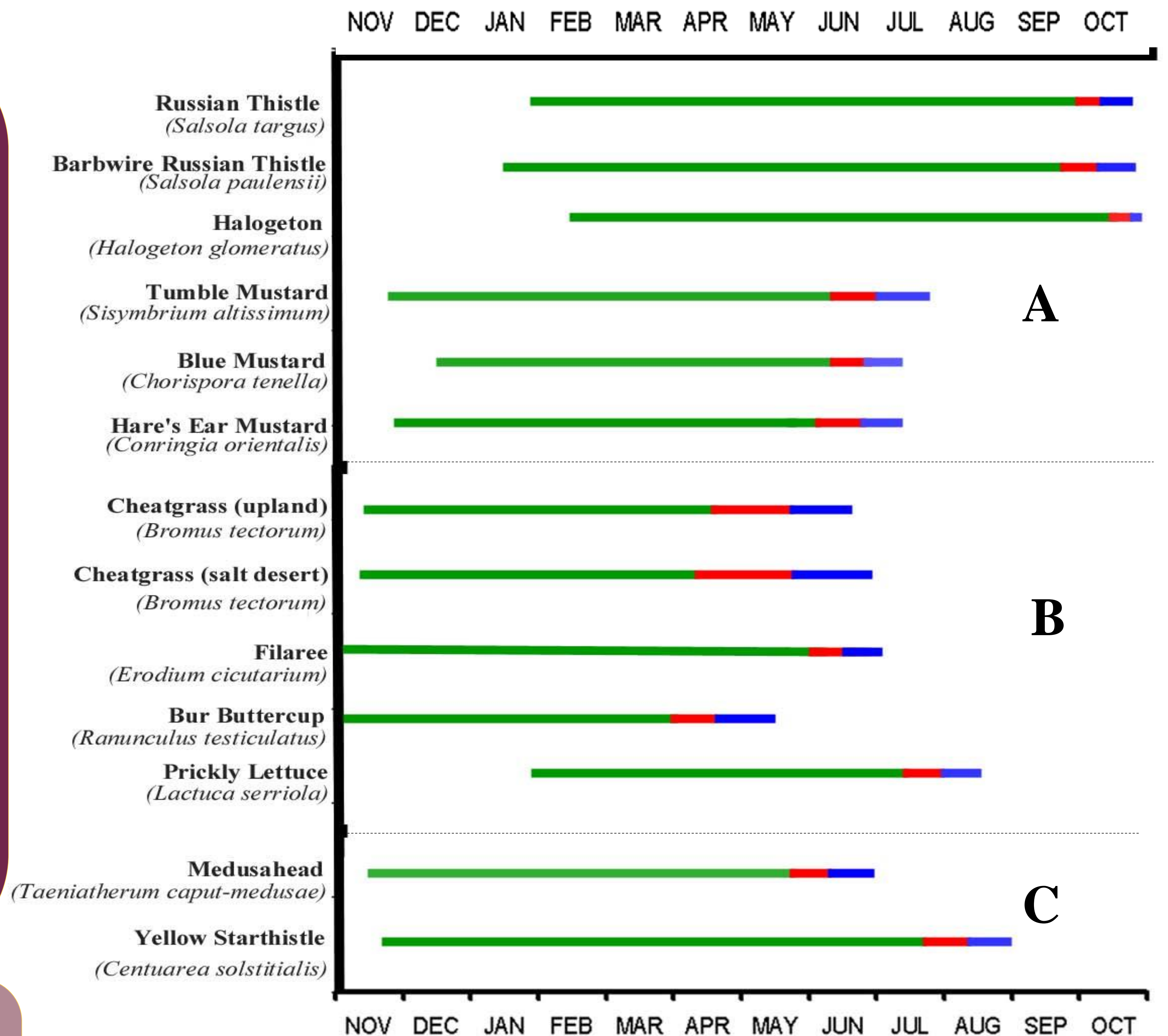


FIGURE 1. Phenology timeline with the following color code: Green = Emergence to flower bud, Red = Flower bud to anthesis, and Blue = Anthesis to seed maturity. (A) Species pre-successional to *Bromus tectorum*, (B) Species sharing dominance with *Bromus tectorum*, and (C) Species post successional to *Bromus tectorum*.

### CONCLUSION

THE ARRAY OF EXOTIC WEED SPECIES THAT OCCUR EITHER PRE-SUCCESSIONAL, IN CONJUNCTION, OR POST-SUCCESSIONAL TO *BROMUS TECTORUM* IN RANGELAND COMMUNITIES HELP TO ASSURE THE CLOSING OF THE SITES TO RECRUITMENT OF SEEDLINGS OF NATIVE PERENNIAL SPECIES BY COMPLETELY UTILIZING THE ENVIRONMENTAL RESOURCES AVAILABLE FOR PLANT GROWTH. BECAUSE THE EXOTIC SPECIES OCCUR IN A SUCCESSIONAL SEQUENCE THEY GREATLY COMPLICATE WEED CONTROL ON SUCH SITES.