

Transformation of a transposon construct into tomato for functional
genomics studies

Dragana Avirovik

Thesis submitted to the faculty of the Virginia Polytechnic Institute and
State University in partial fulfillment of the requirements for the degree of

Master of Science

In

Biological Sciences

Andy Pereira
Christopher B. Lawrence
Dorothea B.C. Tholl

August 29, 2013
Blacksburg, Virginia

Keywords: Genetic transformation, functional genomics, expression of
genes, *Agrobacterium tumefaciens*, *Solanum lycopersicum*.

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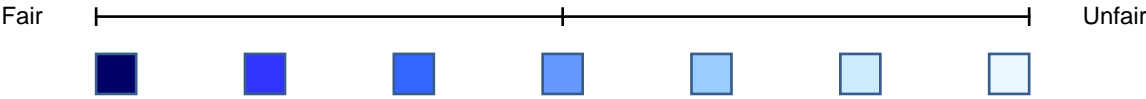
Fair Use Evaluation Documentation

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Name:	Dragana Avirovik
Job Title:	
Institution:	Virginia Tech University
Title of Work Used:	Comparative analysis of drought resistance genes in Arabidopsis and rice
Copyright Holder:	Trijatmiko, Kurniawan R.
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	2005
Description of Work:	
Date of Evaluation:	December 22, 2013
Date of Intended Use:	August 20, 2013

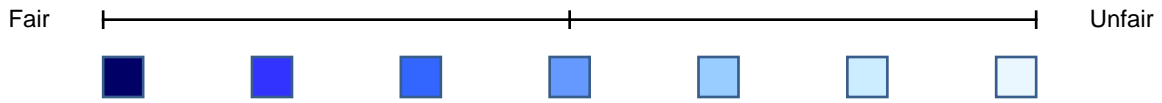
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled " Activation tag constructs of the Ac-Ds in cis two-component system. The marker genes (dark shaded), BAR (Basta resistance), Hyg (hygromycin resistance), and GFP (green fluorescent protein) are driven by the promoters (light shaded) CaMV 35S and rice GOS with the arrows showing the direction of transcription. Abbreviations used are: RB and LB are the T-DNA right and left borders, transposon termini of Ds are labeled as LJ and RJ (left junction, right junction). The TPase denotes the Ac transposase and 35S 4Enh the tetramer of the 35S enhancer"



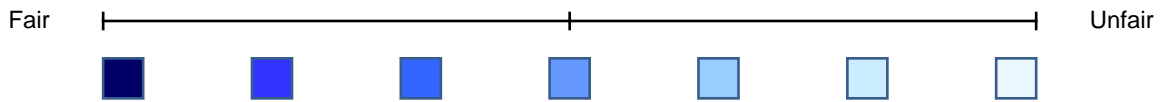
Describe the **Nature** of Your Intended Use of the Copyrighted Work:

[+] Work to be used has been previously PUBLISHED



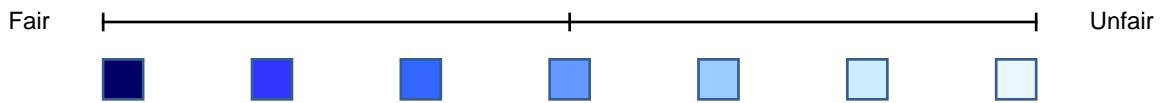
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[+] The portion used is not the "heart" of the work (the portion considered most central to the work as a whole)



Describe the **Effect** of Your Intended Use on the Potential Market or Value of the Copyrighted Work:

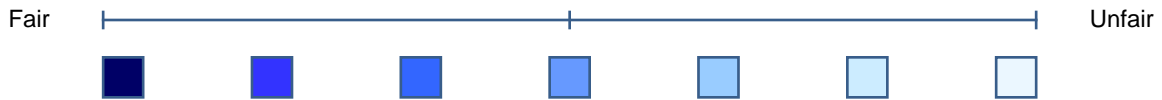
[+] Use of the work has the potential to create or improve the market for the work



The Average **"Fairness Level,"** Based on Your Rating of Each of the 4

Factors, Is:

[\[see tool disclaimer for important clarifying information\]:](#)



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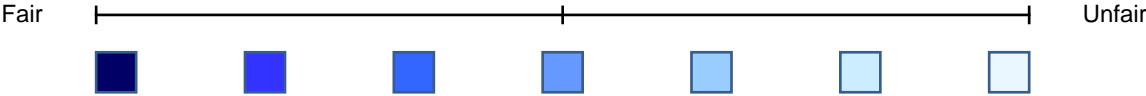
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Name:	Dragana Avirovik
Job Title:	
Institution:	Virginia Tech University
Title of Work Used:	Gene Transfer Methods
Copyright Holder:	Chibbar, S. G.
Publication Status:	Published
Publisher:	Transgenic Crop Plants
Place of Publication:	
Publication Year:	2010
Description of Work:	
Date of Evaluation:	December 22, 2013
Date of Intended Use:	August 20, 2013

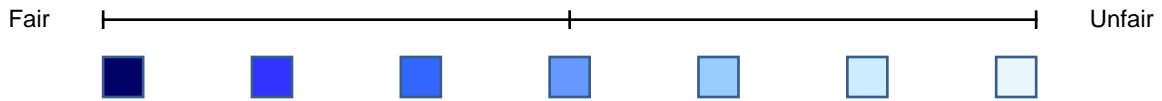
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "Scheme for developing a transgenic plant"



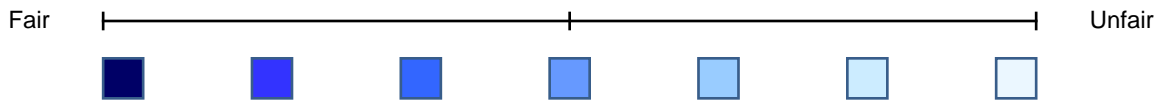
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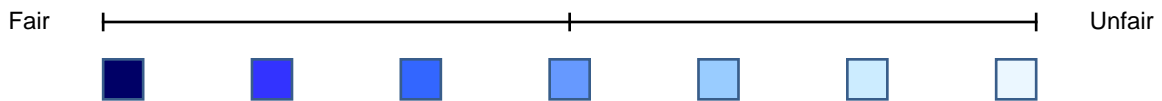
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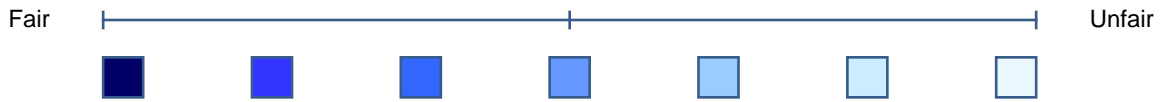
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Name: Dragana Avirovik

Job Title:

Institution: Virginia Tech University

Title of Work Used:

Copyright Holder:

Publication Status: Published

Publisher: InvivoGen

Place of Publication:

Publication Year:

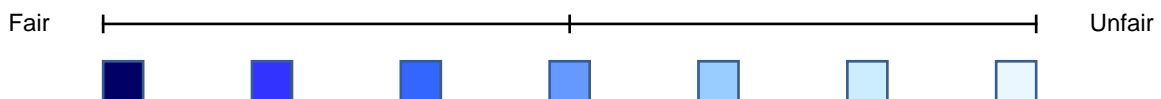
Description of Work: Structure of Hygromycin

Date of Evaluation: December 22, 2013

Date of Intended Use: August 20, 2013

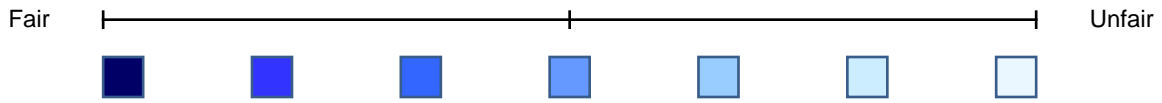
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "Chemical structure of Hygromycin"



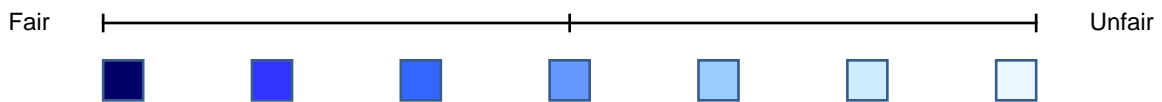
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[+] Work to be used has been previously PUBLISHED



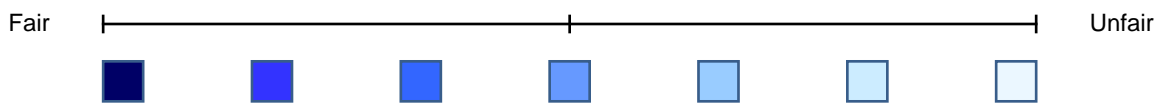
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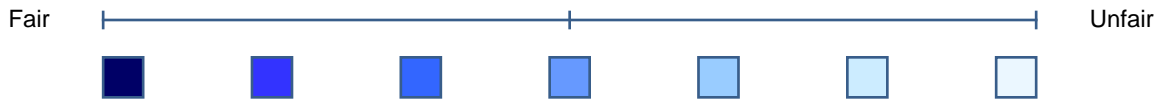
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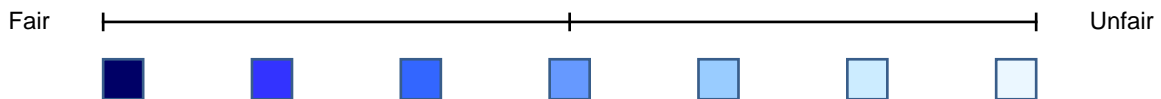
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Name:	Dragana Avirovik
Job Title:	
Institution:	Virginia Tech University
Title of Work Used:	Plant cells resistant to herbicidal Glutamine synthetase inhibitors
Copyright Holder:	Goodman, Howard M., Donn,
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	1992
Description of Work:	
Date of Evaluation:	December 22, 2013
Date of Intended Use:	August 20, 2013

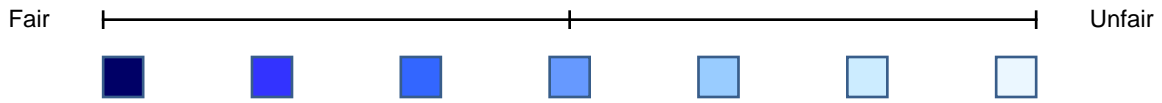
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "Glutamine Synthase/Glutamate Synthase Cycle"



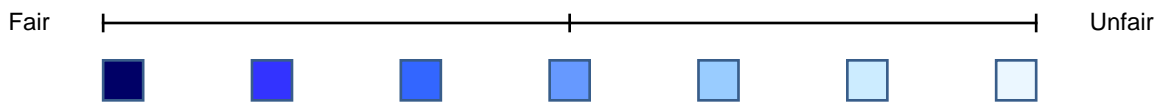
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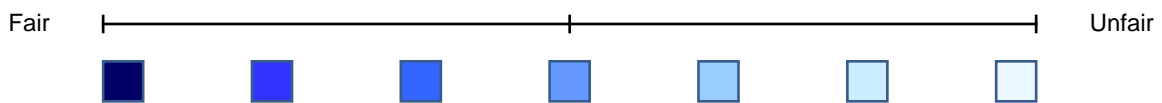
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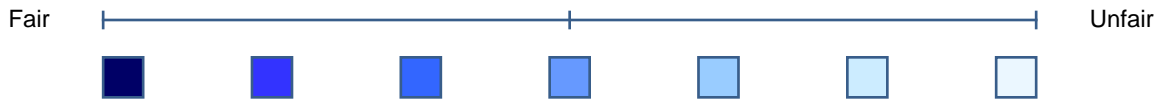
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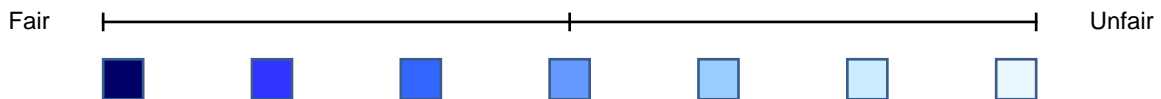
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Name: Dragana Avirovik
Job Title:
Institution: Virginia Tech University
Title of Work Used: Plant cells resistant to herbicidal Glutamine synthetase inhibitors
Copyright Holder: Goodman, Howard M., Donn,
Publication Status: Published
Publisher:
Place of Publication:
Publication Year: 1992
Description of Work:
Date of Evaluation: December 22, 2013
Date of Intended Use: August 20, 2013

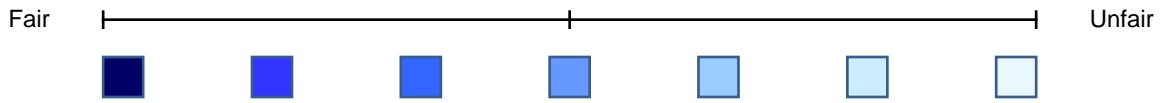
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "Chemical Structure of Phosphinothricin (PPT)"



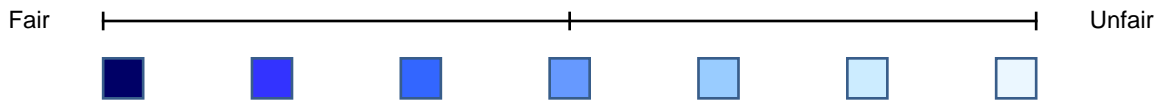
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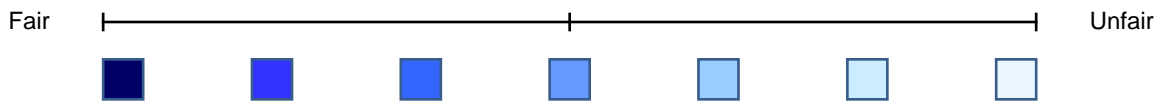
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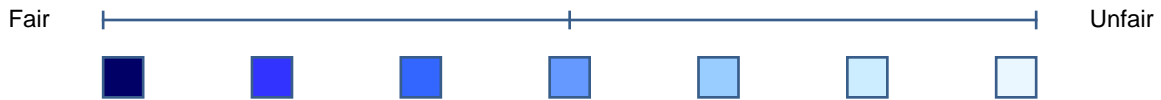
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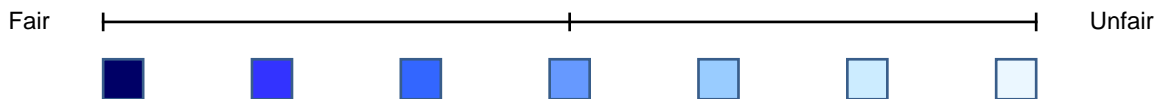
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Name:	Dragana Avirovik
Job Title:	
Institution:	Virginia Tech University
Title of Work Used:	Primary structure of the Aequorea victoria green-fluorescent protein
Copyright Holder:	Prasher ,D.C., Ward ,W.W., Prendergast,F.G. and Cormier, M.J.
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	1992
Description of Work:	
Date of Evaluation:	December 22, 2013
Date of Intended Use:	August 20, 2013

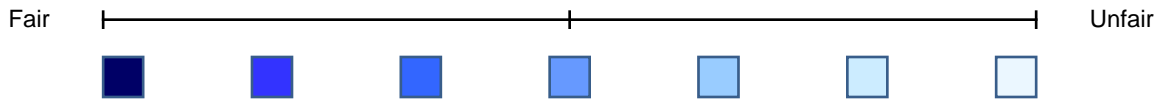
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "The chromophore in Aequorea green fluorescent protein (GFP)"



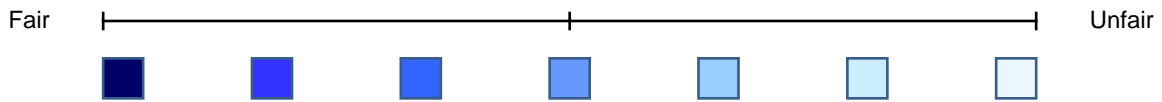
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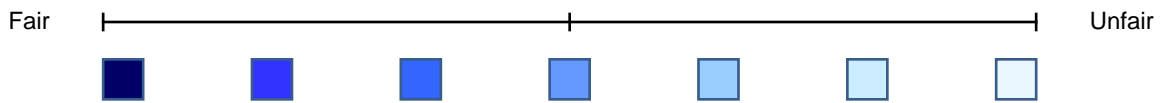
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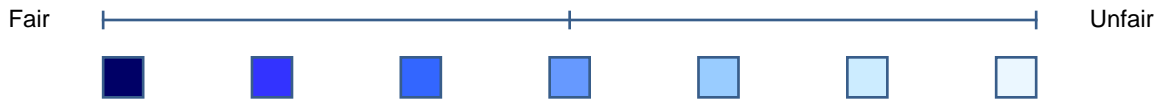
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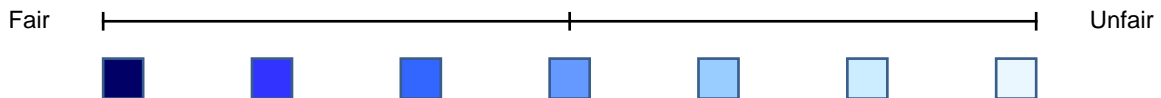
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Name:	Dragana Avirovik
Job Title:	
Institution:	Virginia Tech University
Title of Work Used:	Using GFP to see the light
Copyright Holder:	Prasher, D. C.
Publication Status:	Published
Publisher:	
Place of Publication:	
Publication Year:	1995
Description of Work:	
Date of Evaluation:	December 22, 2013
Date of Intended Use:	August 20, 2013

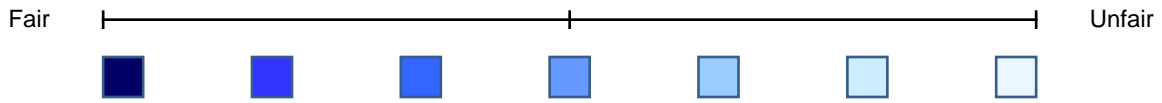
Describe the **Purpose** and Character of Your Intended Use:

I will be using the figure titled "In Aequorea the aequorin protein binds calcium oxidizes coelenterazine. The oxidation of the coelenterazine releases energy and stimulates the GFP to emit green light in vivo"



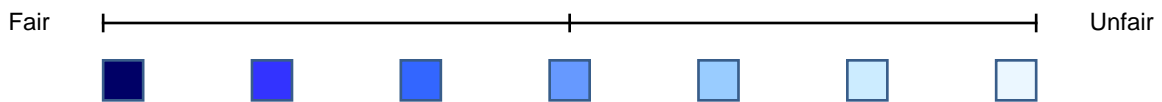
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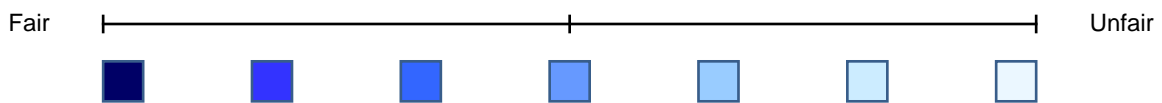
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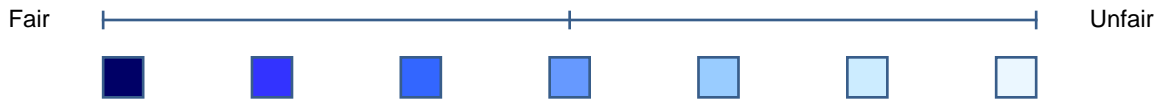
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