

Table of Contents

Preface to the Fourth Edition xi

1 Introduction 1

1.1 Basic Horse Color Identification 3

1.2 Basic Principles of Genetics, Genomics, and Molecular Biology 10

1.3 Pigment Cell Function and Genetic Control 18

2 Basic Dark Horse Colors: Bay, Chestnut, Black, and Brown 23

2.1 Bay, Chestnut, and Black 23

2.2 Two Subtypes of Bay: Wild Bay and Bay 32

2.3 Seal Brown 34

2.4 Dominant Black 36

3 Modifications Affecting Most Colors 39

3.1 Shade 39

3.2 Sooty 46

3.3 Mealy 53

3.4 Mane and Tail Color on Chestnut and Sorrel 57

3.5 Bend Or Spots 62

3.6 Dapples 63

3.7 Brindle and Chimeras 63

3.8 Eye Color 68

3.9 Foal Color 71

4 Dilutions of the Basic Dark Colors 75

4.1 Linebacked Dun 76

4.2 Cream-related and Pearl Colors 93

4.3 Champagne 107

4.4 Silver Dapple 114

4.5 Mushroom: Definition, Classification, and Genetic Control 122

4.6 Lavender 123

4.7 Other Dilutions 124

4.8 Compound Dilute Colors 125

5 Overview of the Genetic Control of Horse Color 131

6 Patterns with Individually Distributed White Hairs 137

6.1 General Considerations 137

6.2 Patterns of White with Individually Distributed White Hairs: Grey and

7 Nonsymmetric Patches of White: White Marks, Paints, and Pintos 165

7.1 Face and Leg Markings 166

7.2 Nonsymmetric White Body Patches: Paint or Pinto Patterns 170

8 Patterns with Symmetric White Patches: The Leopard Complex 211

Rebecca Bellone, Sheila Archer, and D. Phillip Sponenberg

8.1 Leopard Complex 211

9 Overview of Patterns Adding White 239

10 Horse Color and Horse Breeding 243

11 Peculiarities of Hair Growth 247

12 Donkey Color 251

12.1 Colors of Donkeys 251

12.2 Patterns of White 261

12.3 Genetics of Donkey Color and Patterns 272

12.4 Summary of Donkey Color and Patterns 277

12.5 Hair Growth in Donkeys 278

13 Summary Tables 279

Bibliography 323

Index 335