

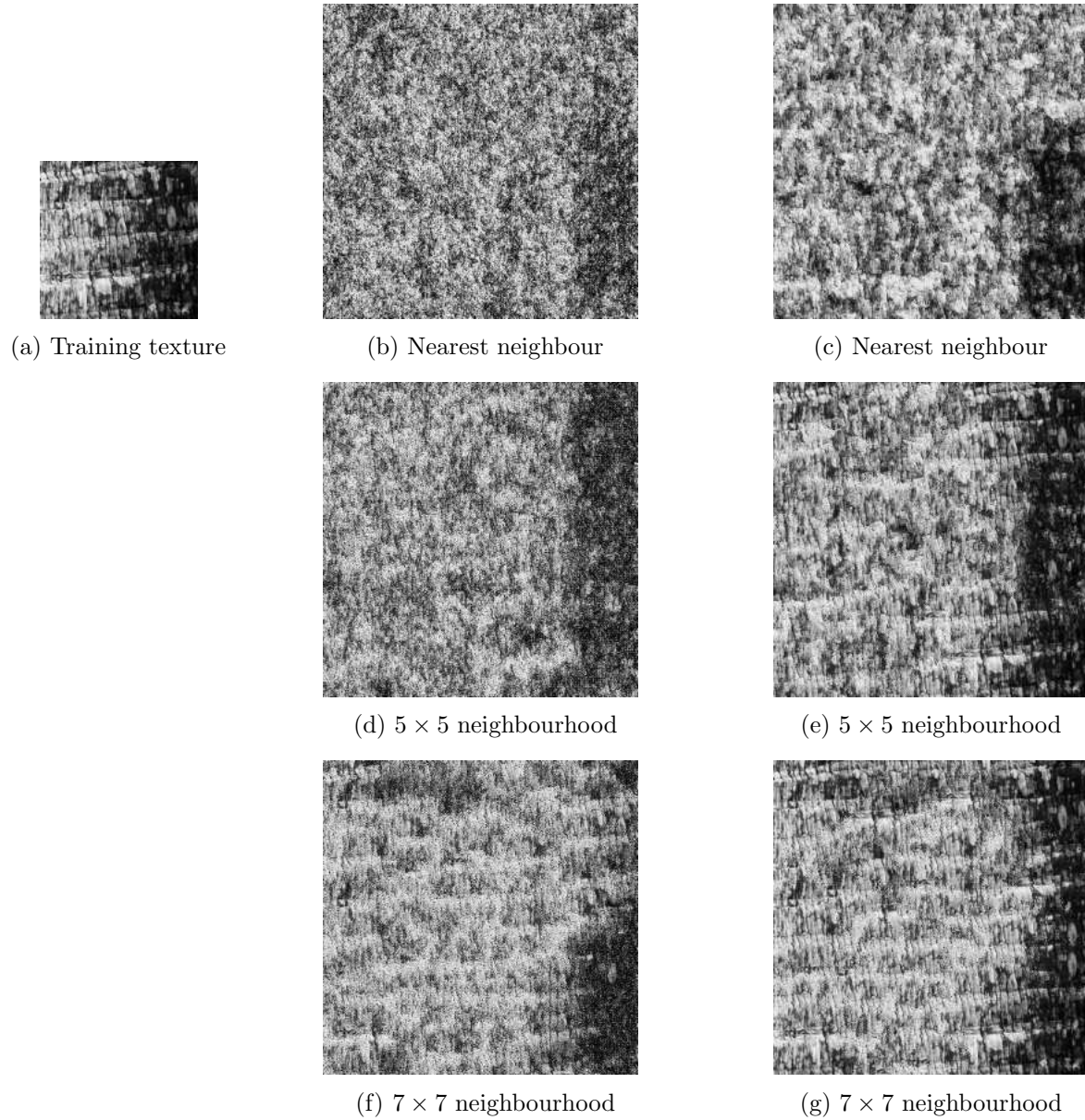


Figure B.73: VisTex texture Bark.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

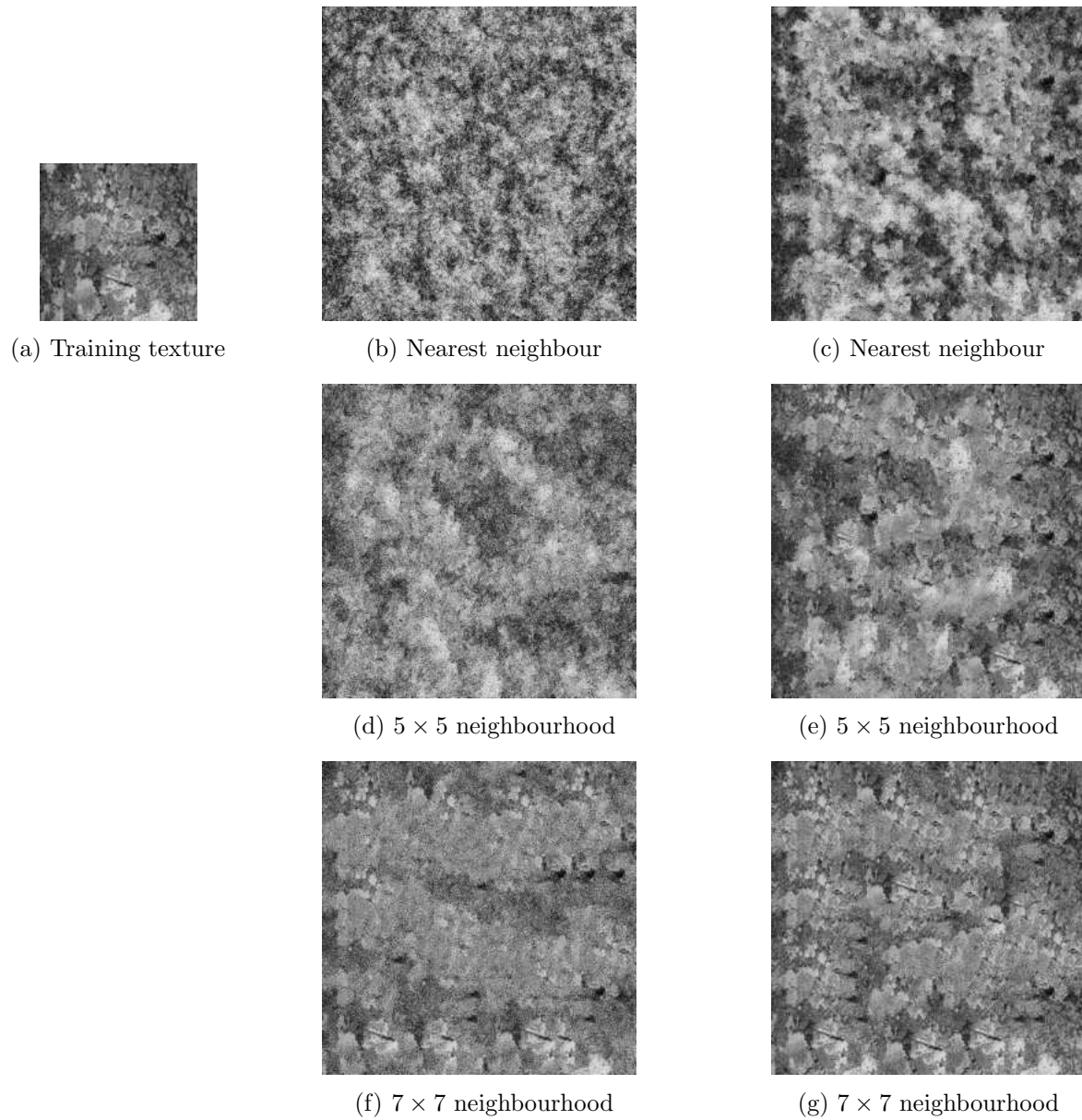


Figure B.74: VisTex texture Bark.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

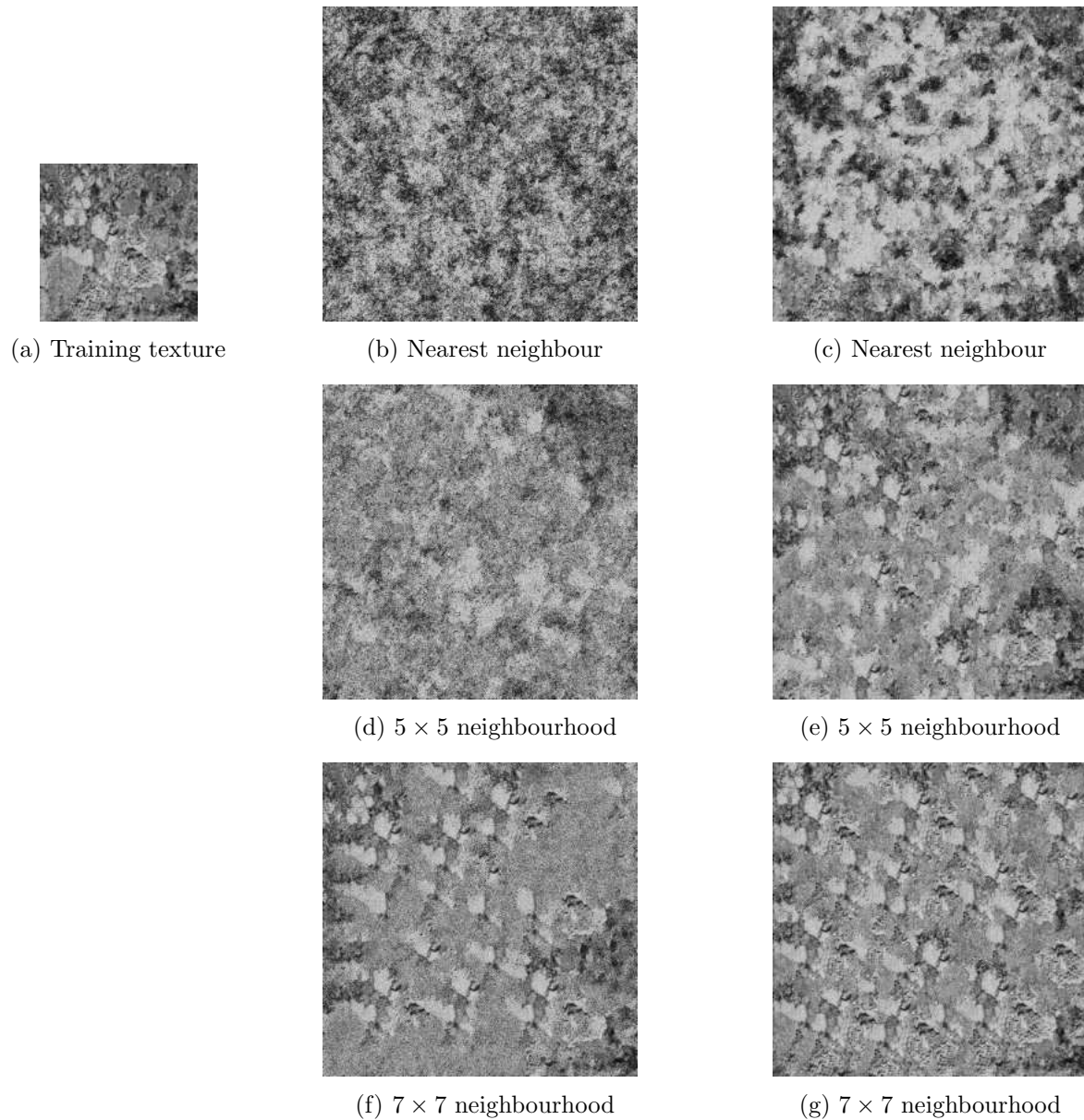


Figure B.75: VisTex texture Bark.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

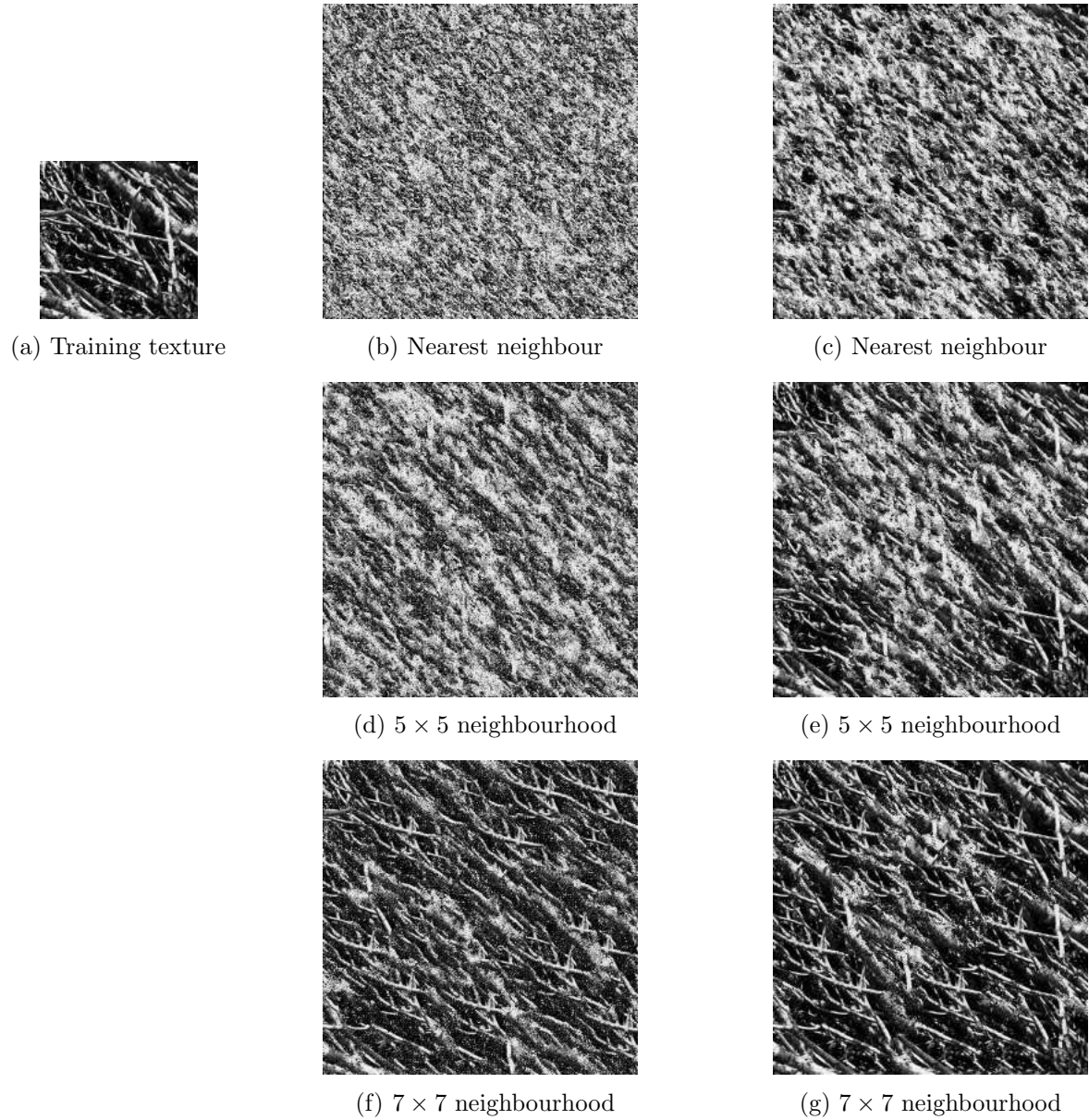


Figure B.76: VisTex texture Bark.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

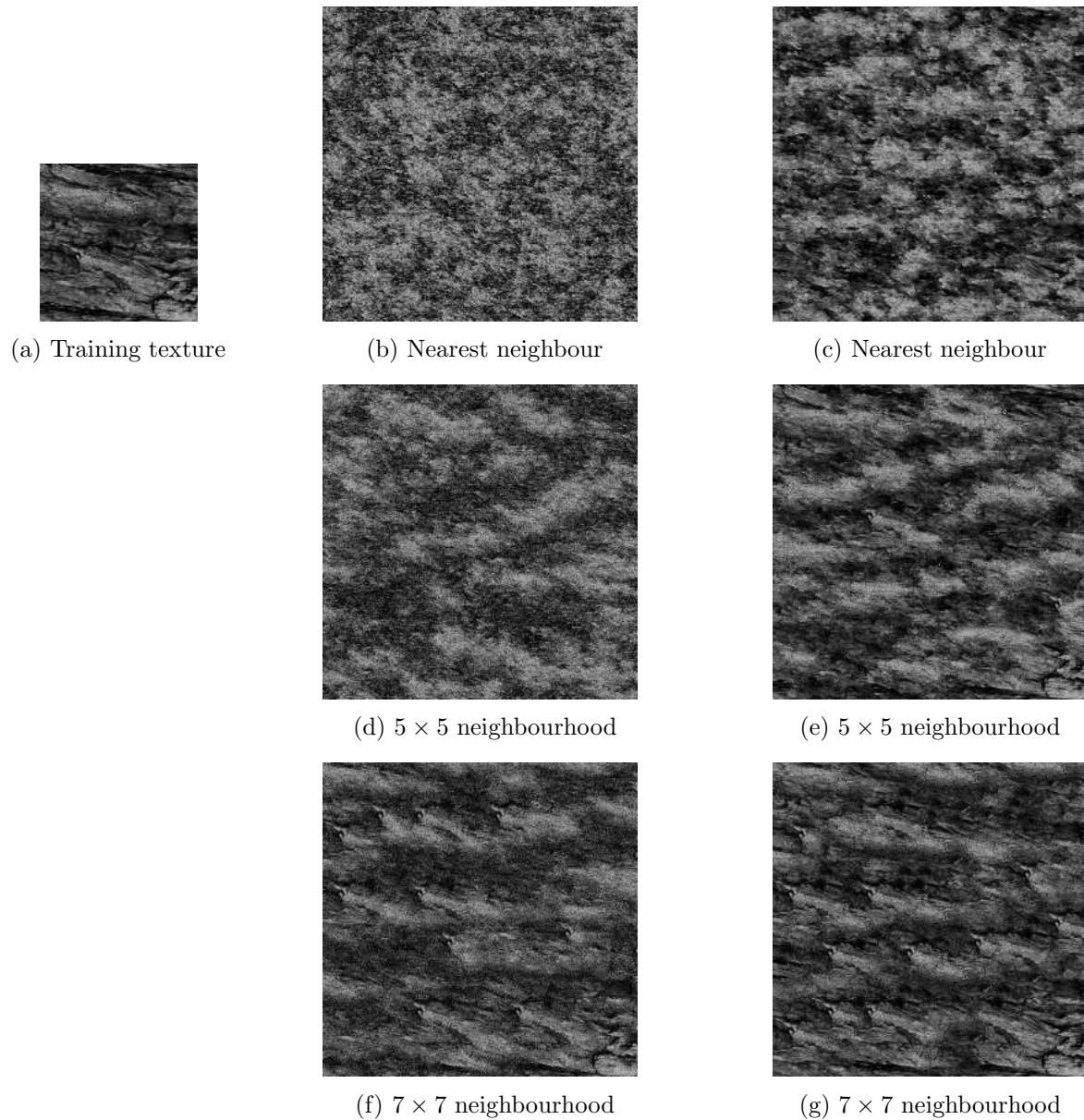


Figure B.77: VisTex texture Bark.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

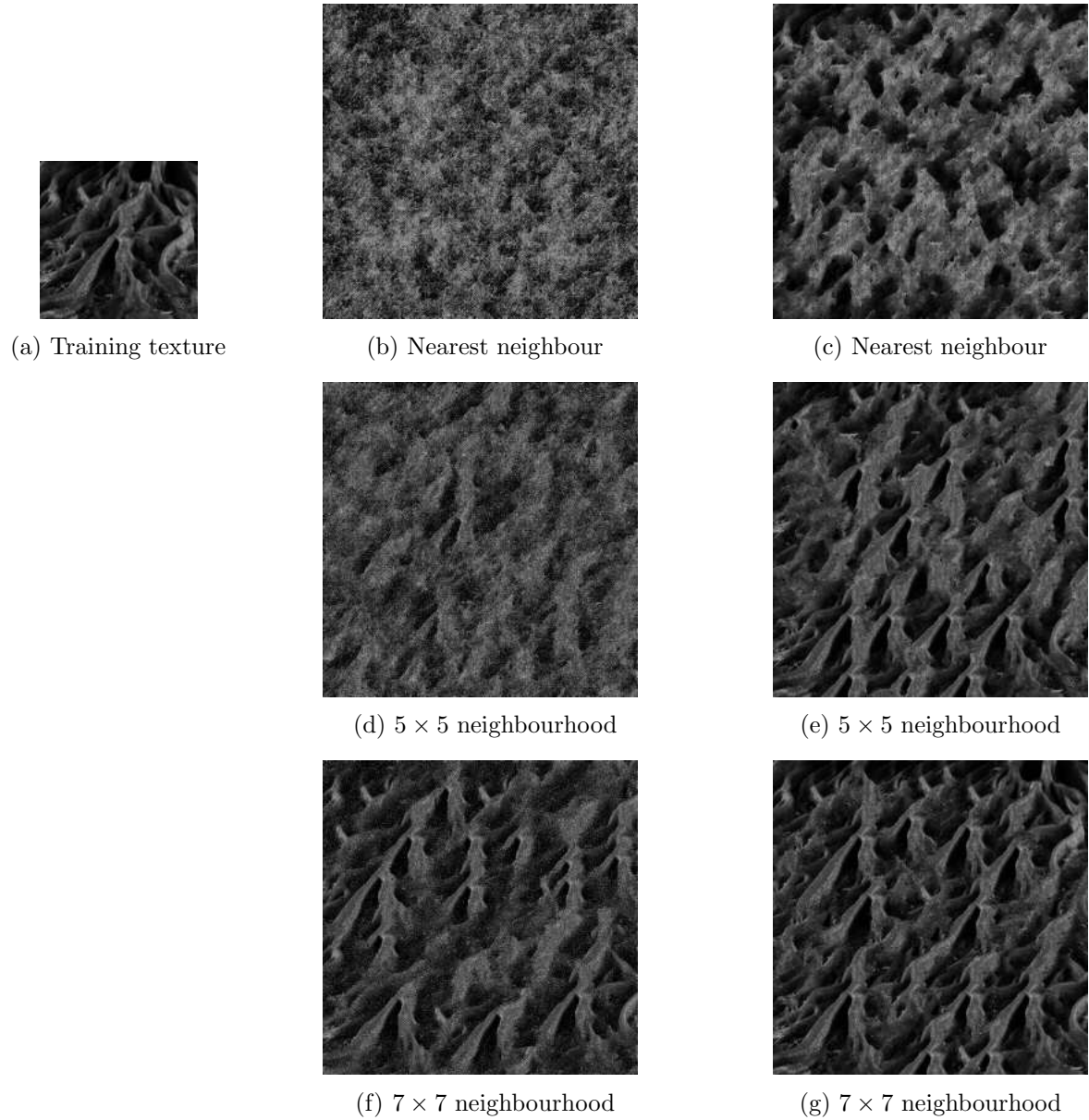


Figure B.78: VisTex texture Bark.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

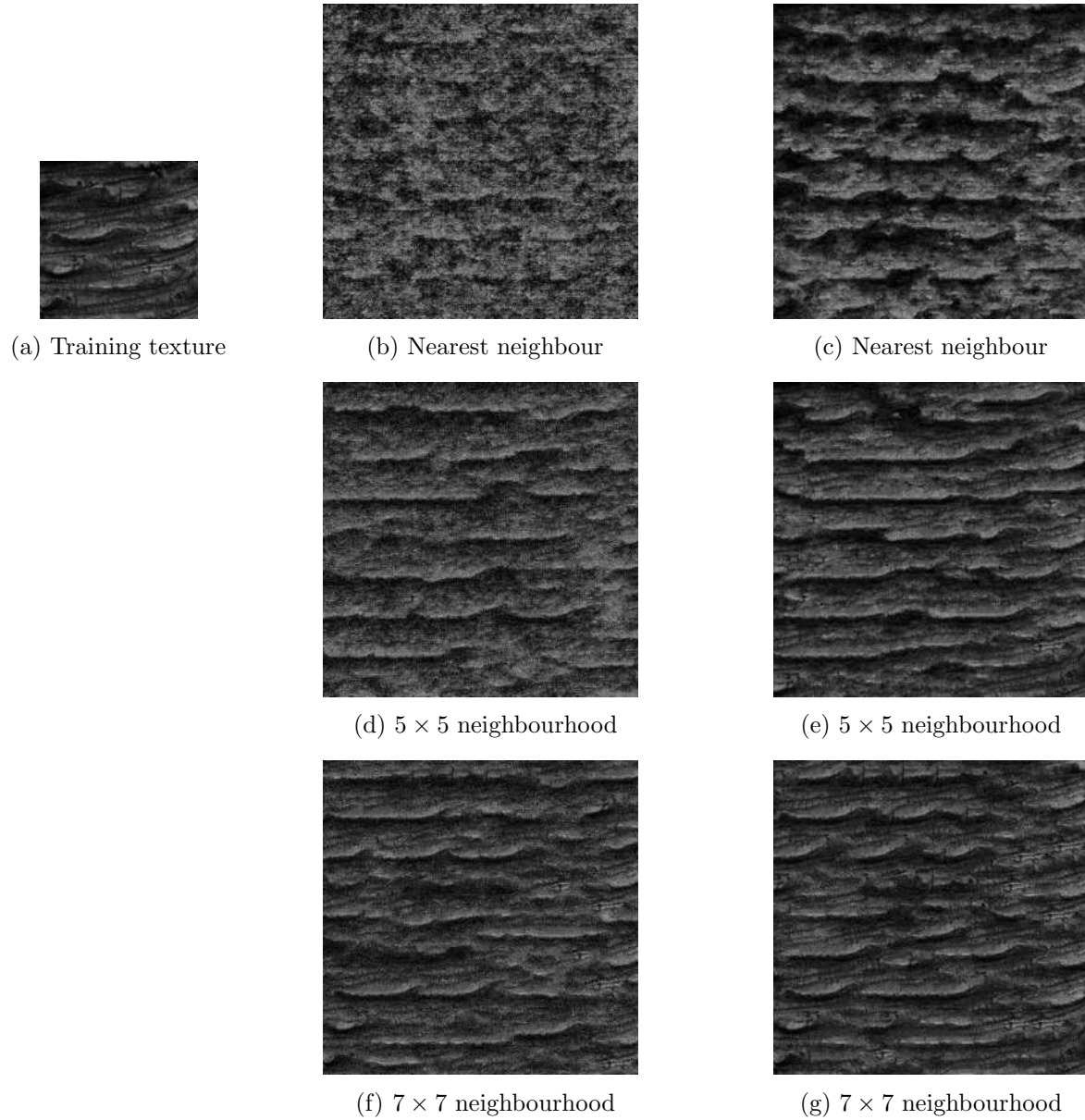


Figure B.79: VisTex texture Bark.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

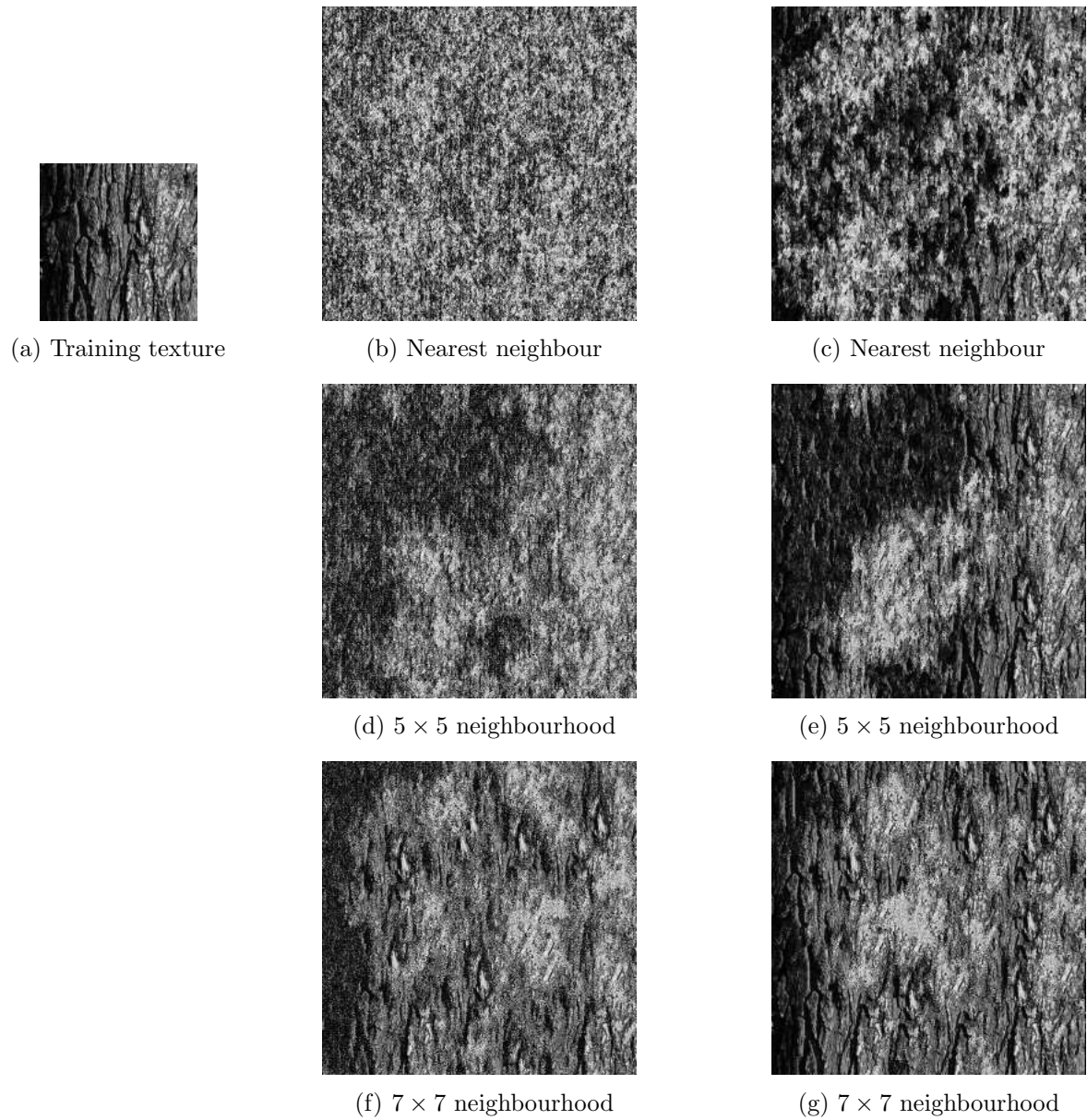


Figure B.80: VisTex texture Bark.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

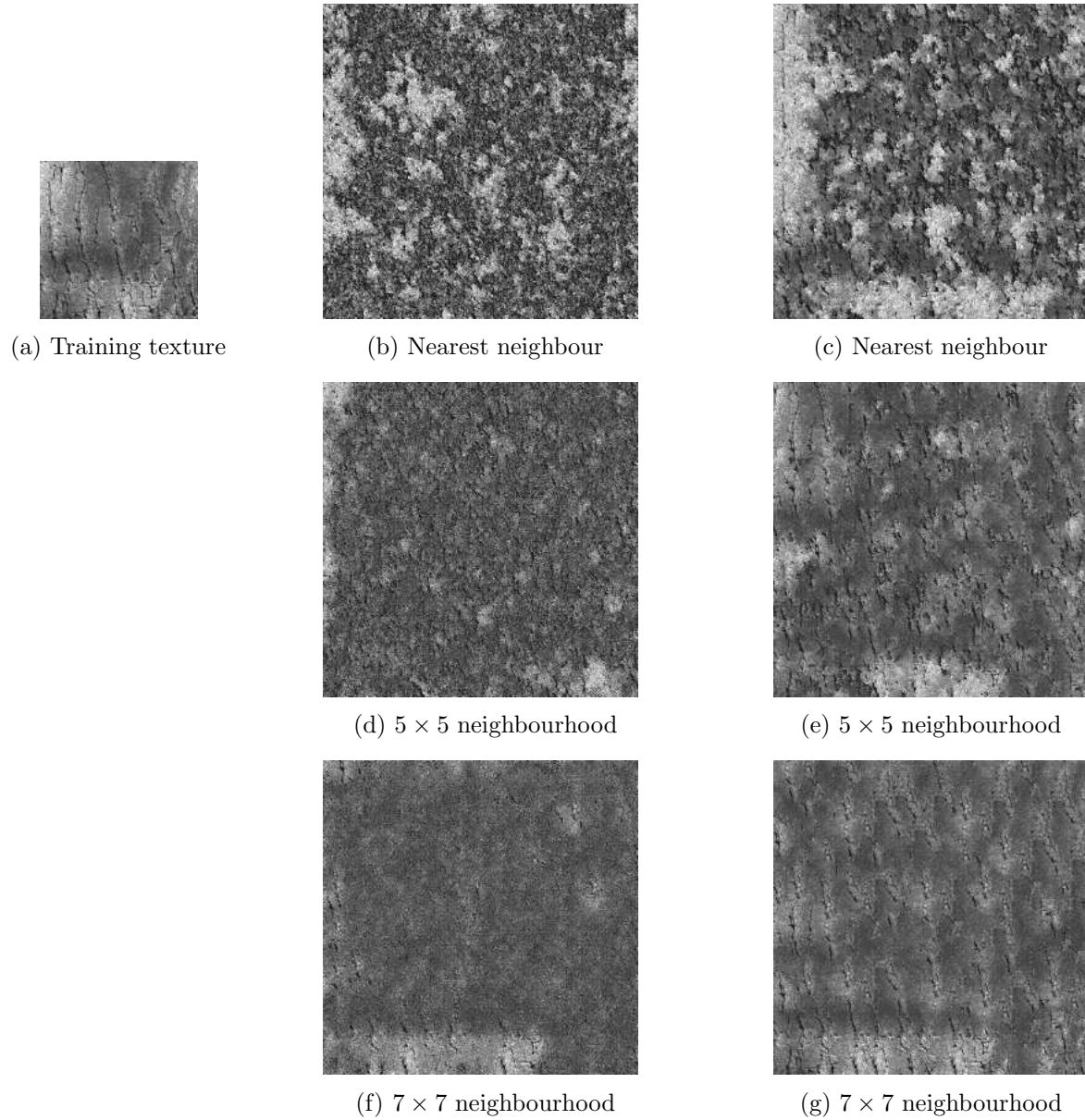


Figure B.81: VisTex texture Bark.0008: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

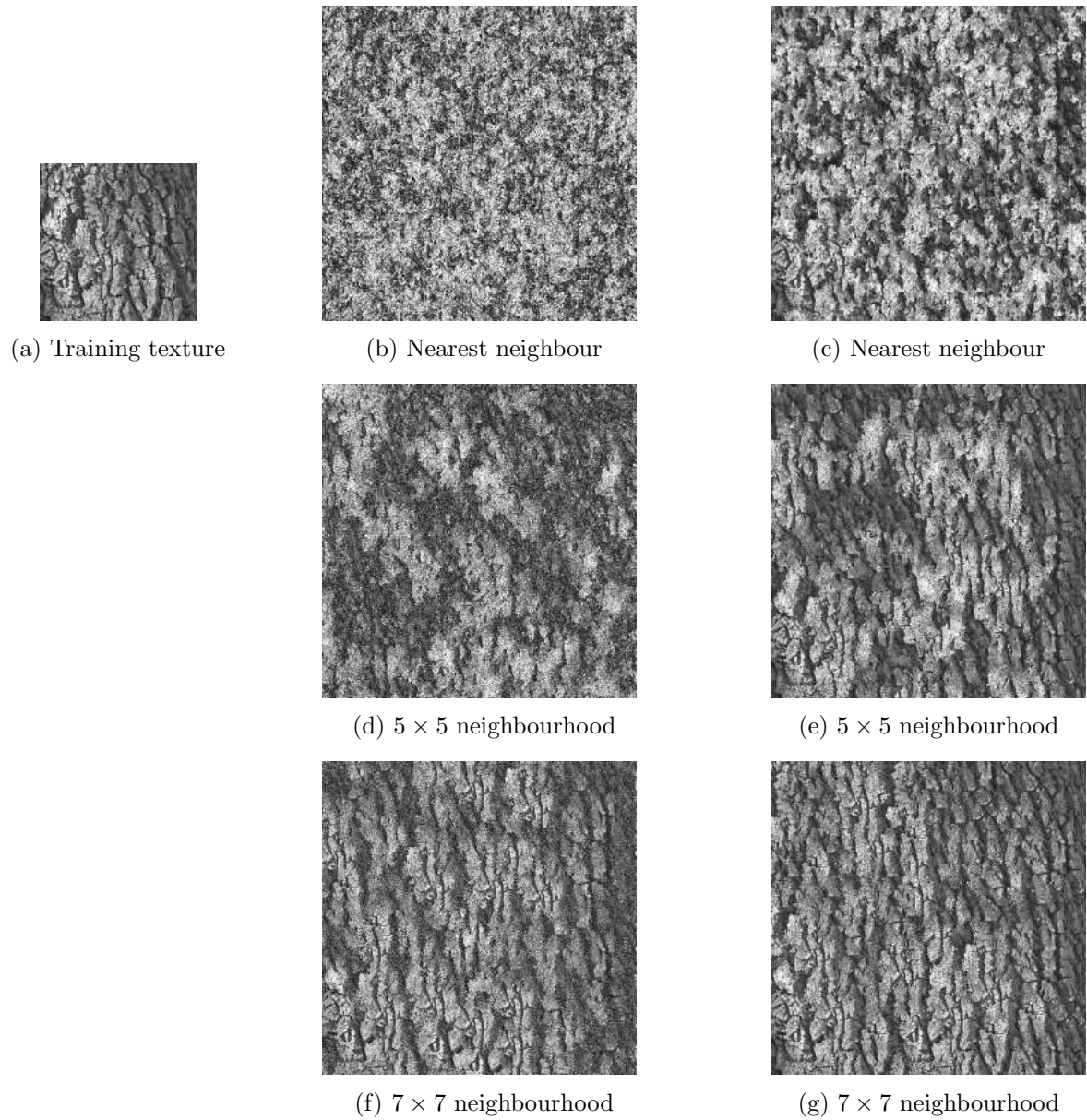


Figure B.82: VisTex texture Bark.0009: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

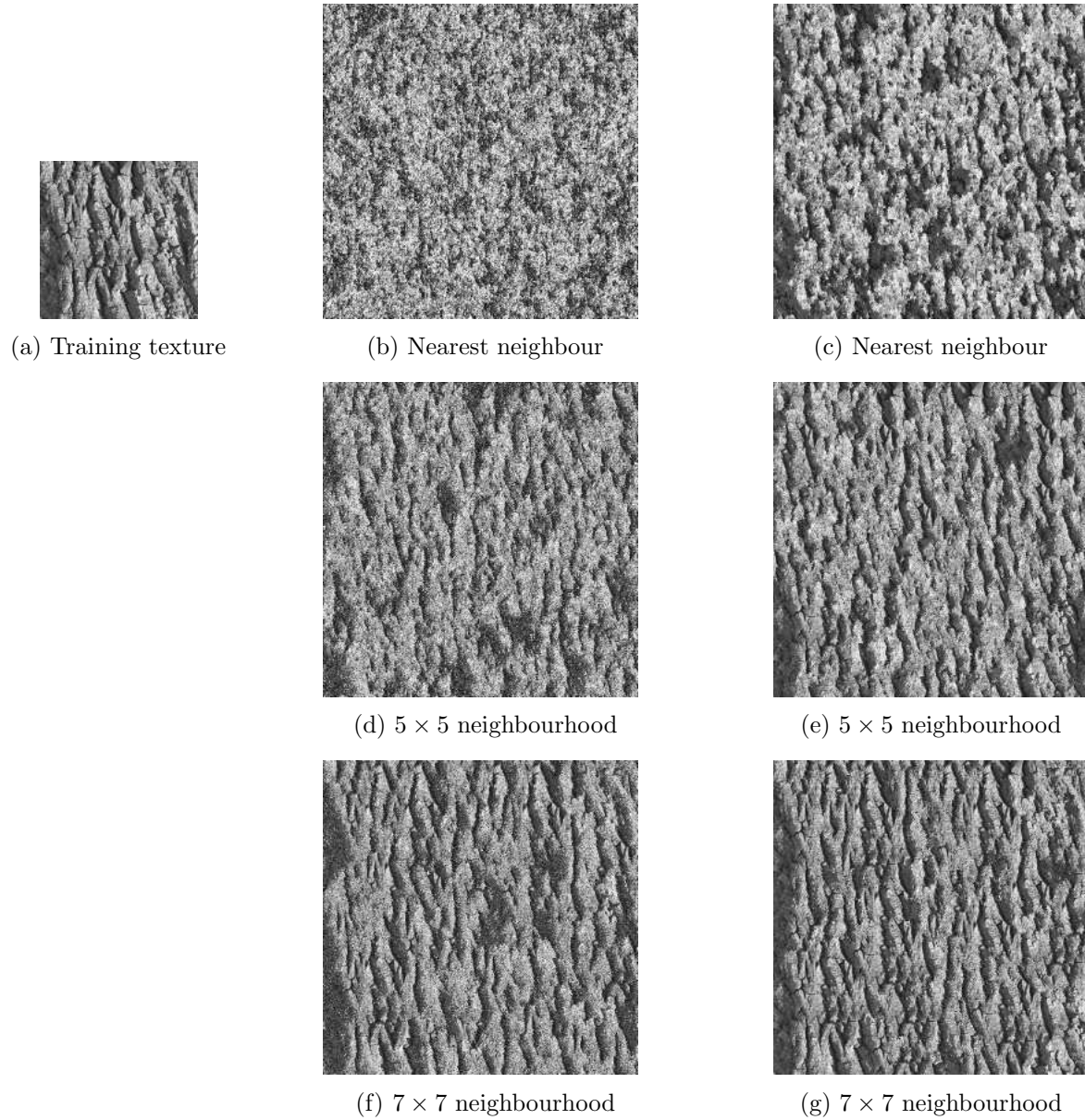


Figure B.83: VisTex texture Bark.0010: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

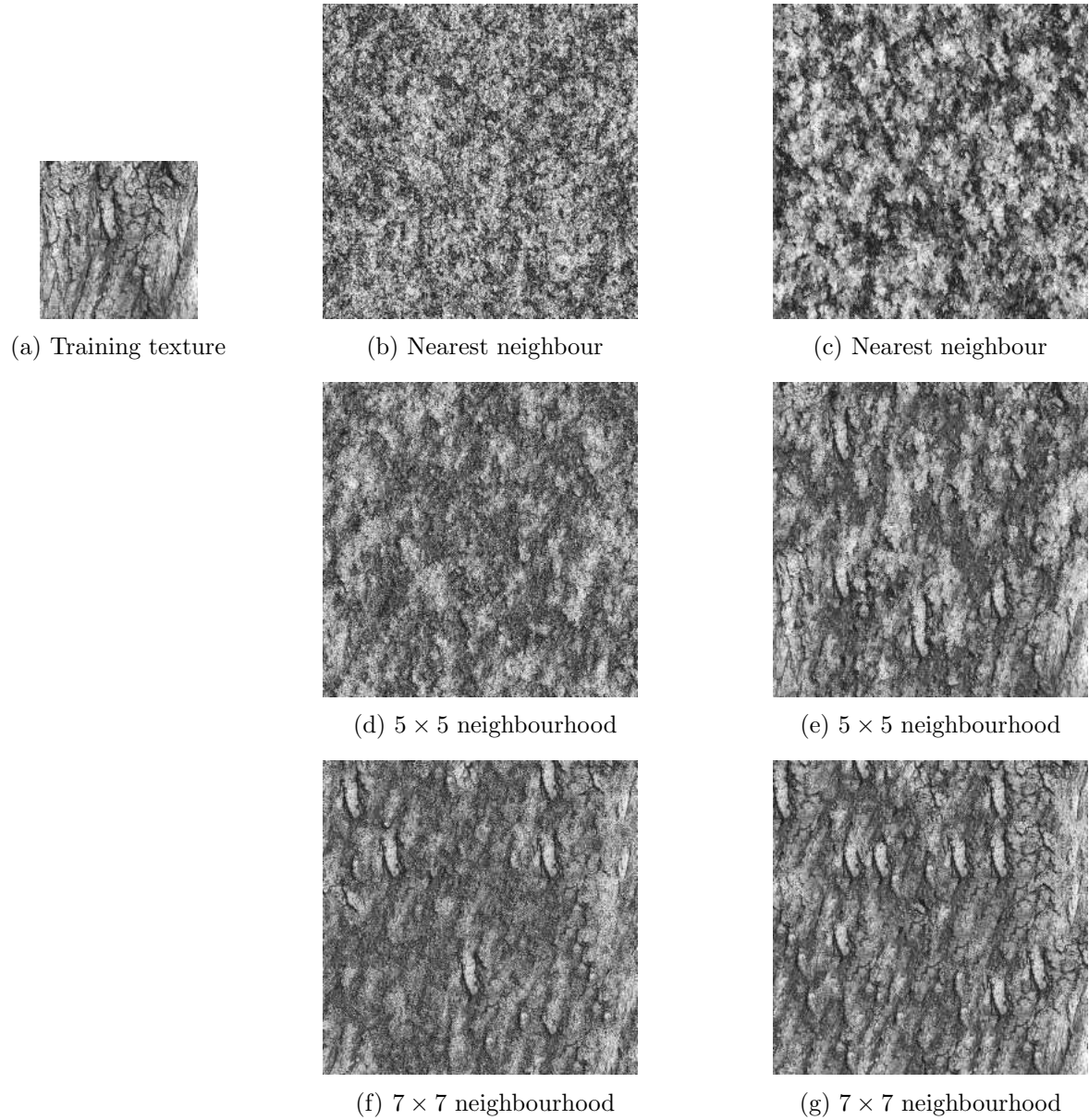


Figure B.84: VisTex texture Bark.0011: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

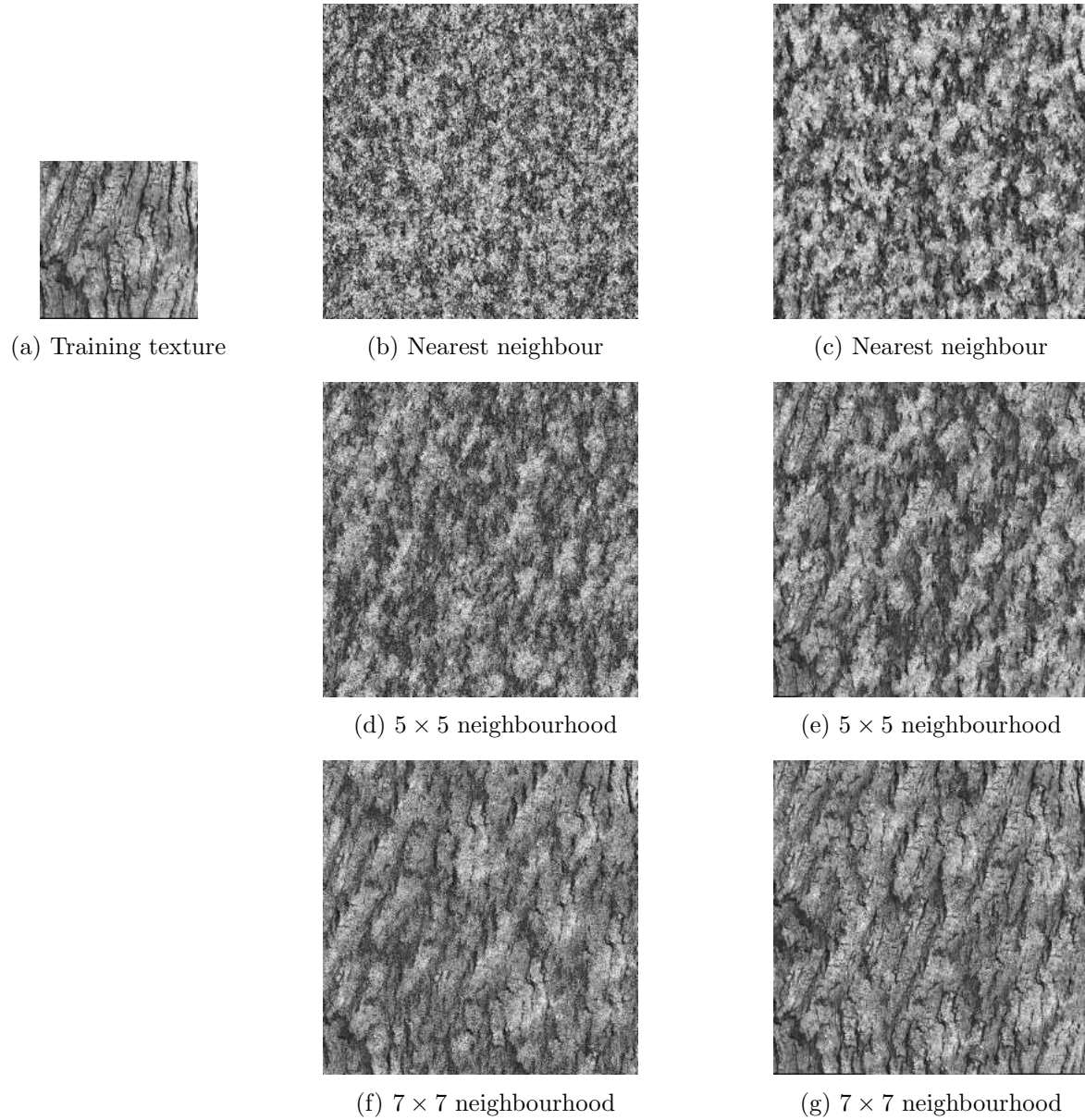


Figure B.85: VisTex texture Bark.0012: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

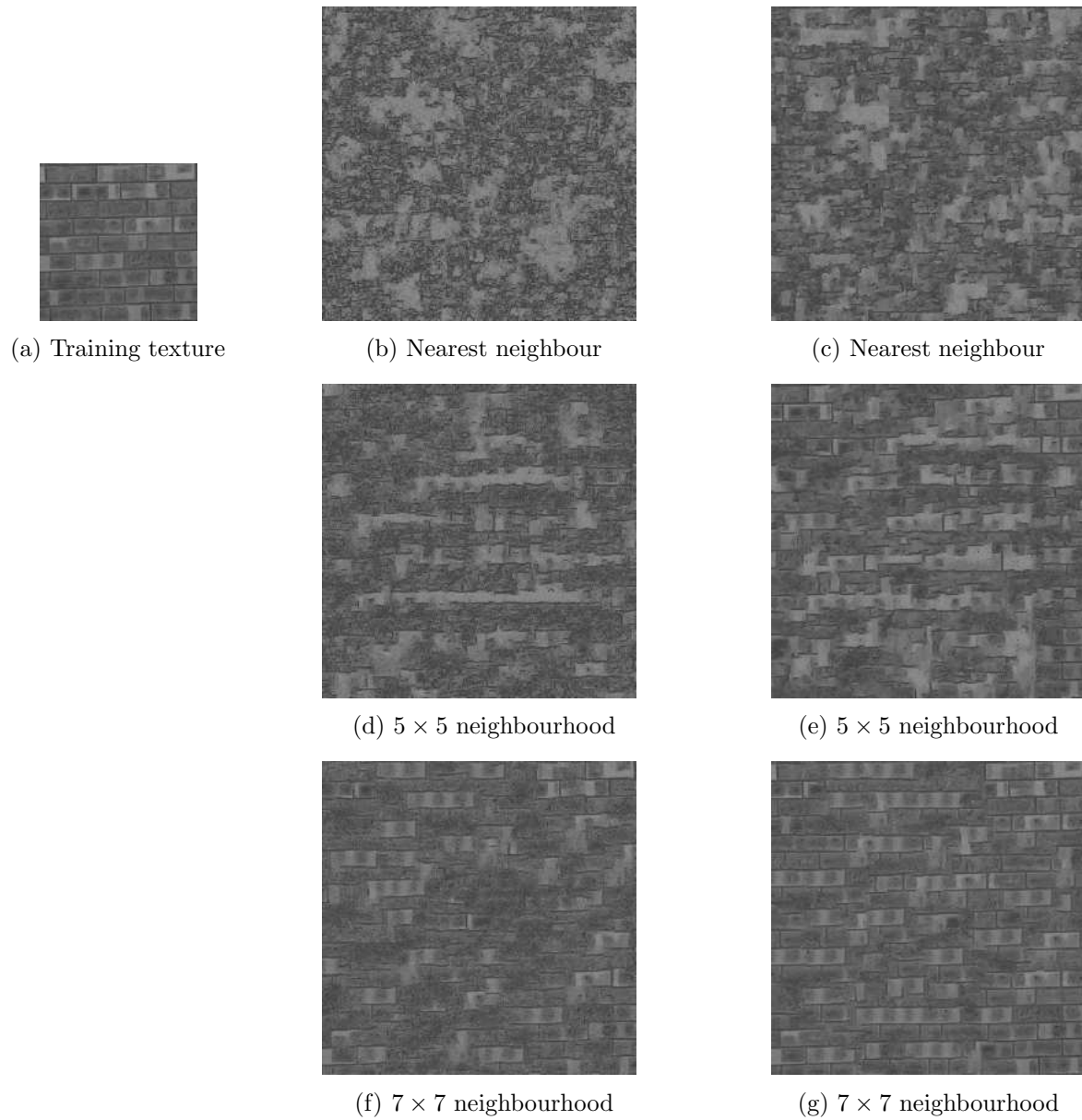


Figure B.86: VisTex texture Brick.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

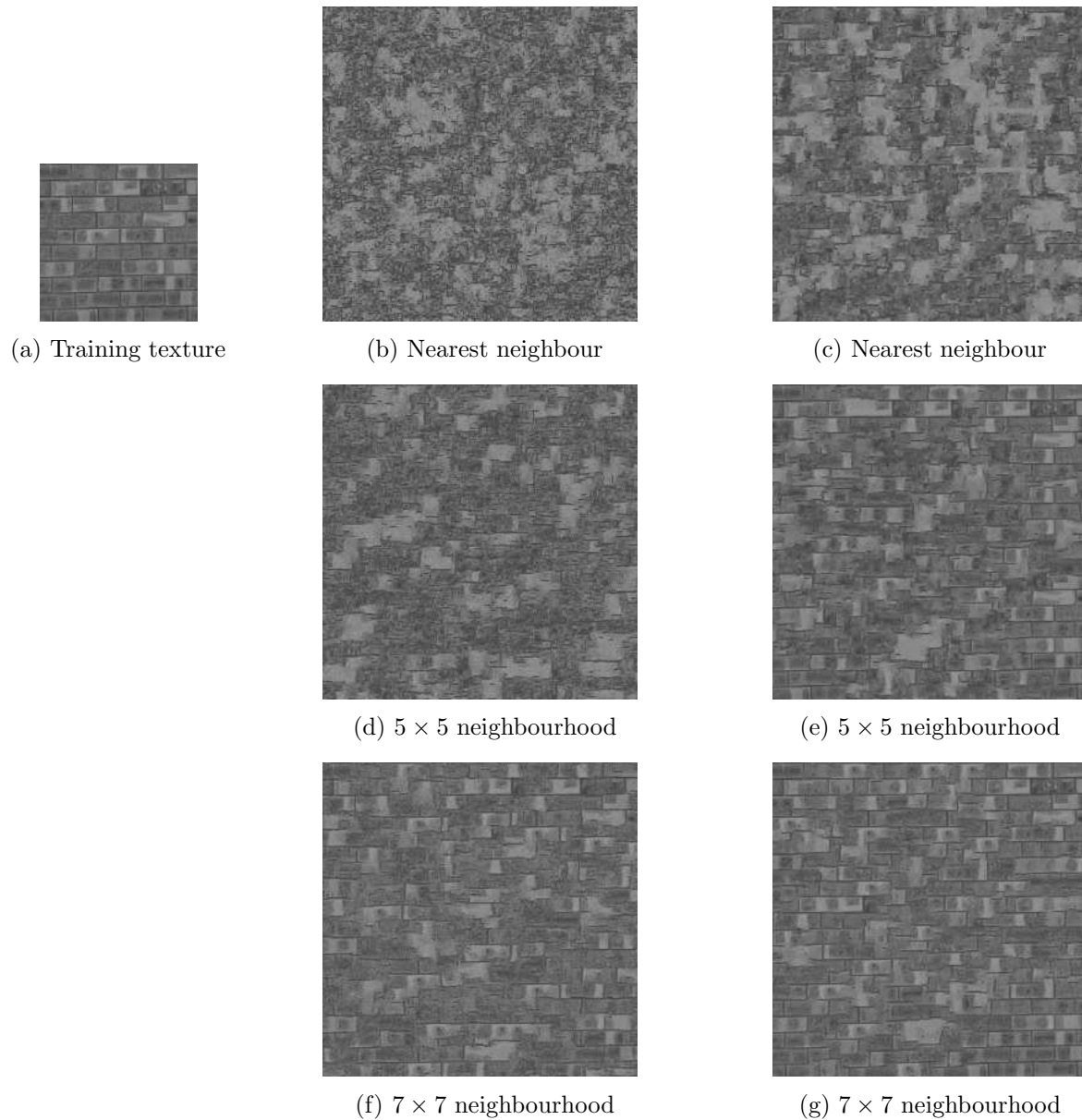


Figure B.87: VisTex texture Brick.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

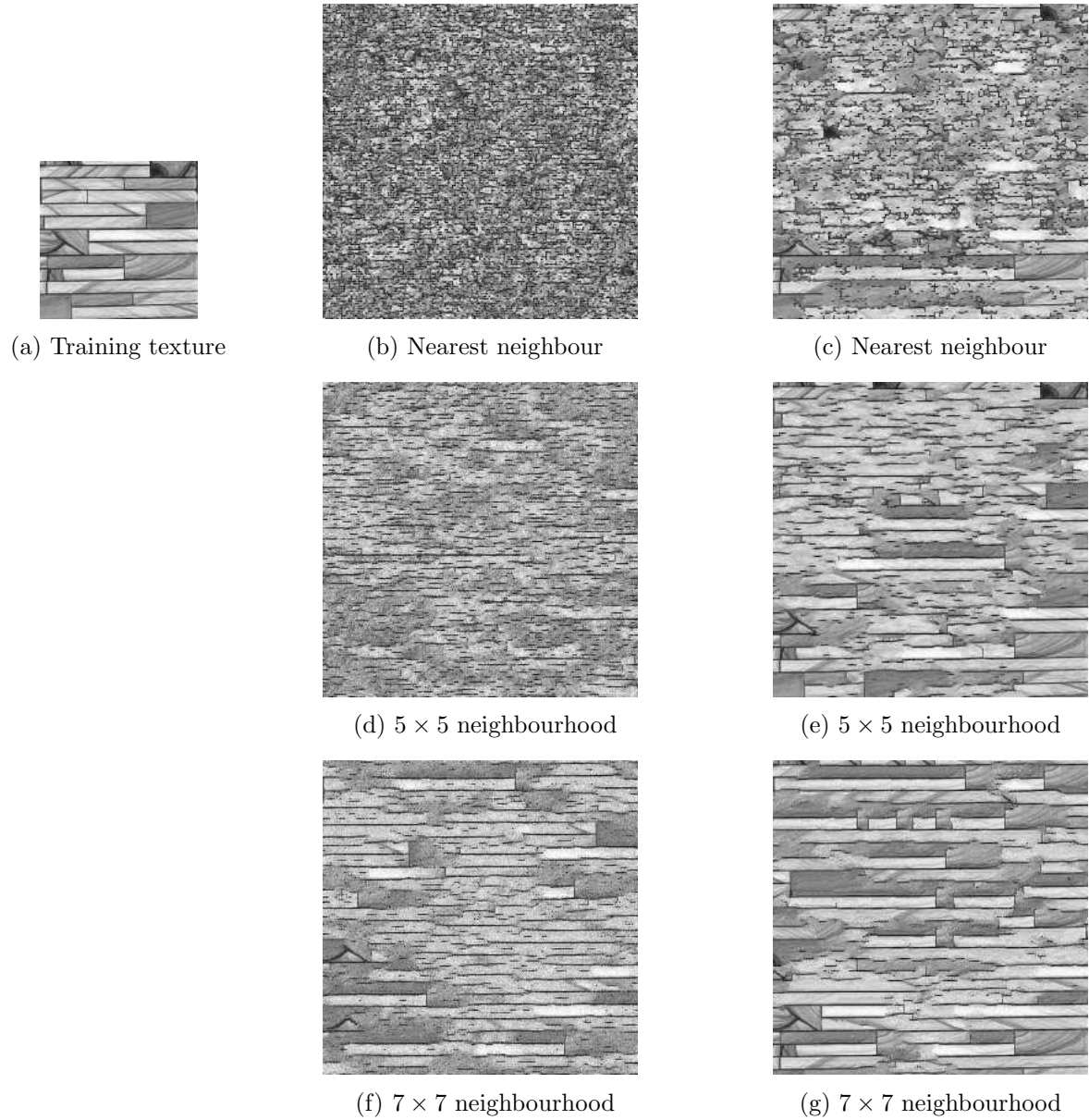


Figure B.88: VisTex texture Brick.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

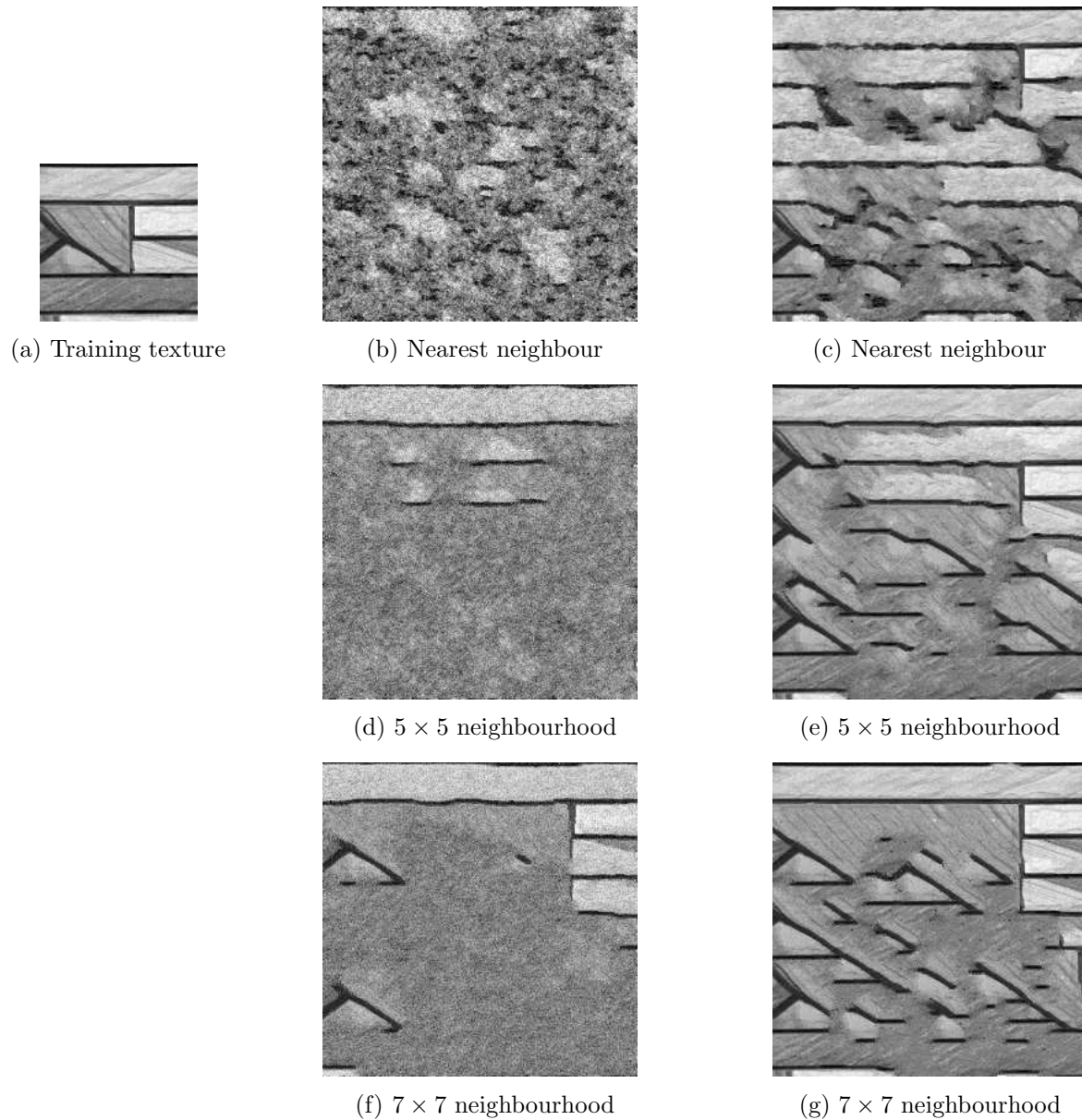


Figure B.89: VisTex texture Brick.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

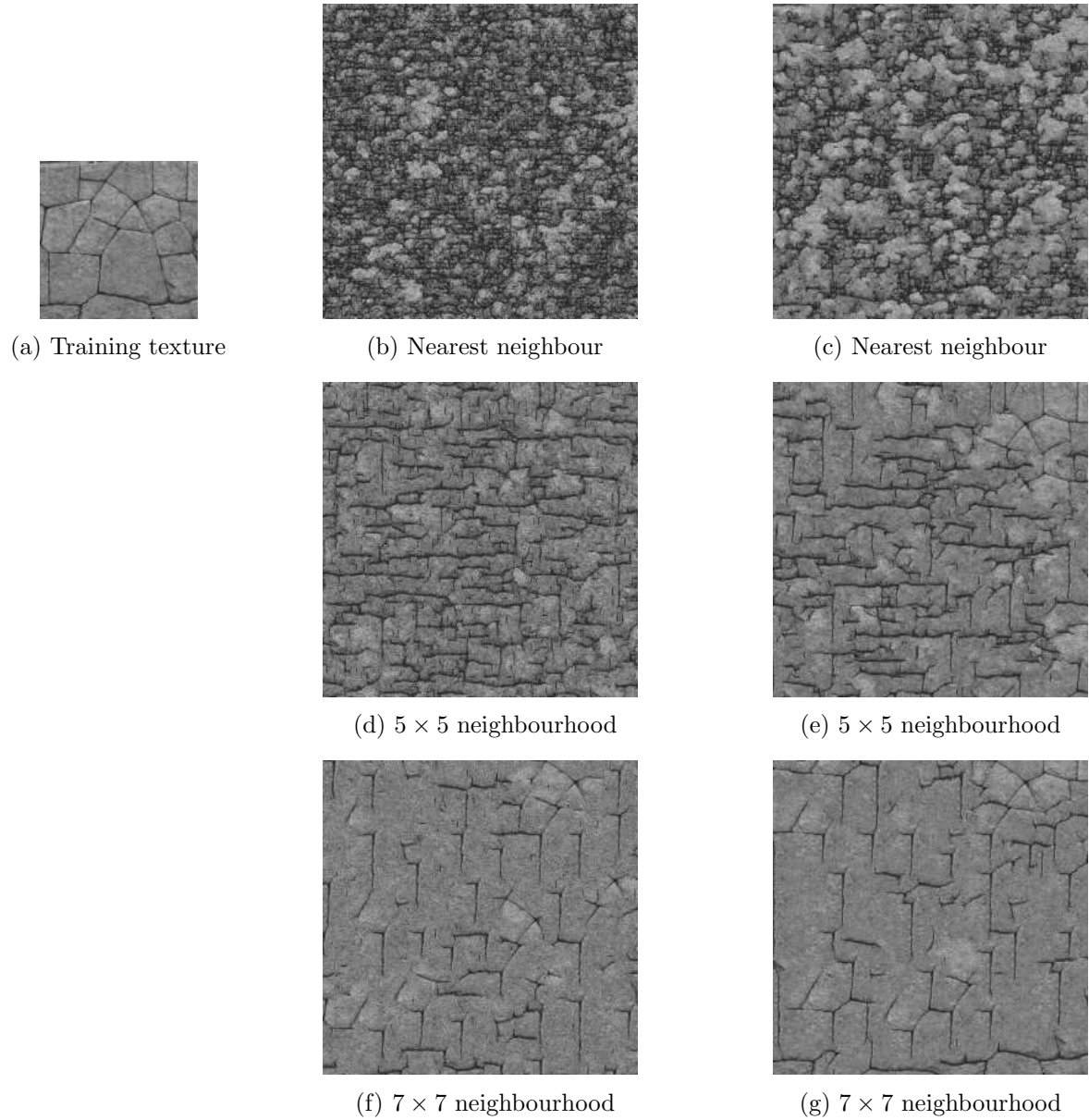


Figure B.90: VisTex texture Brick.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

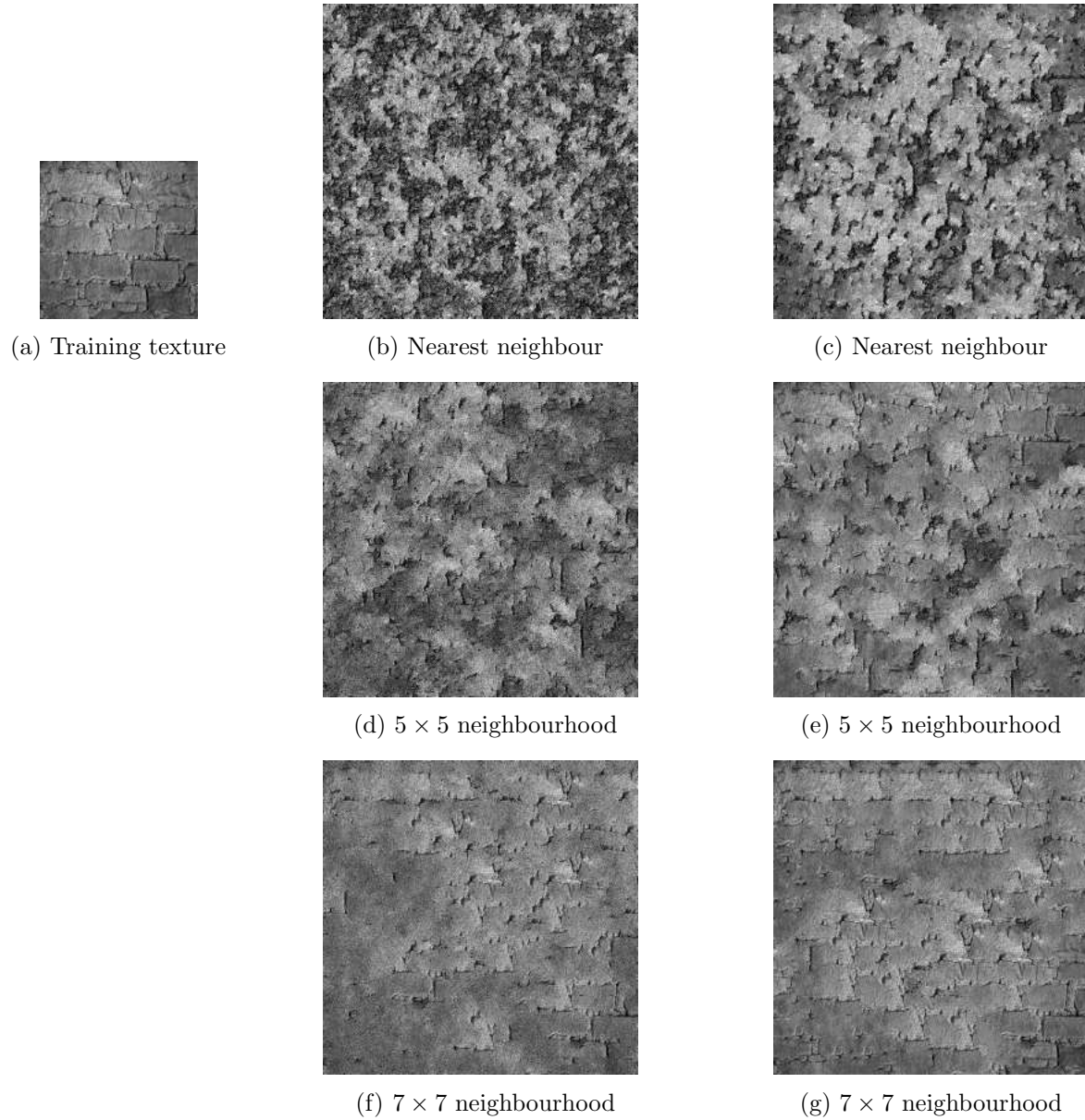


Figure B.91: VisTex texture Brick.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

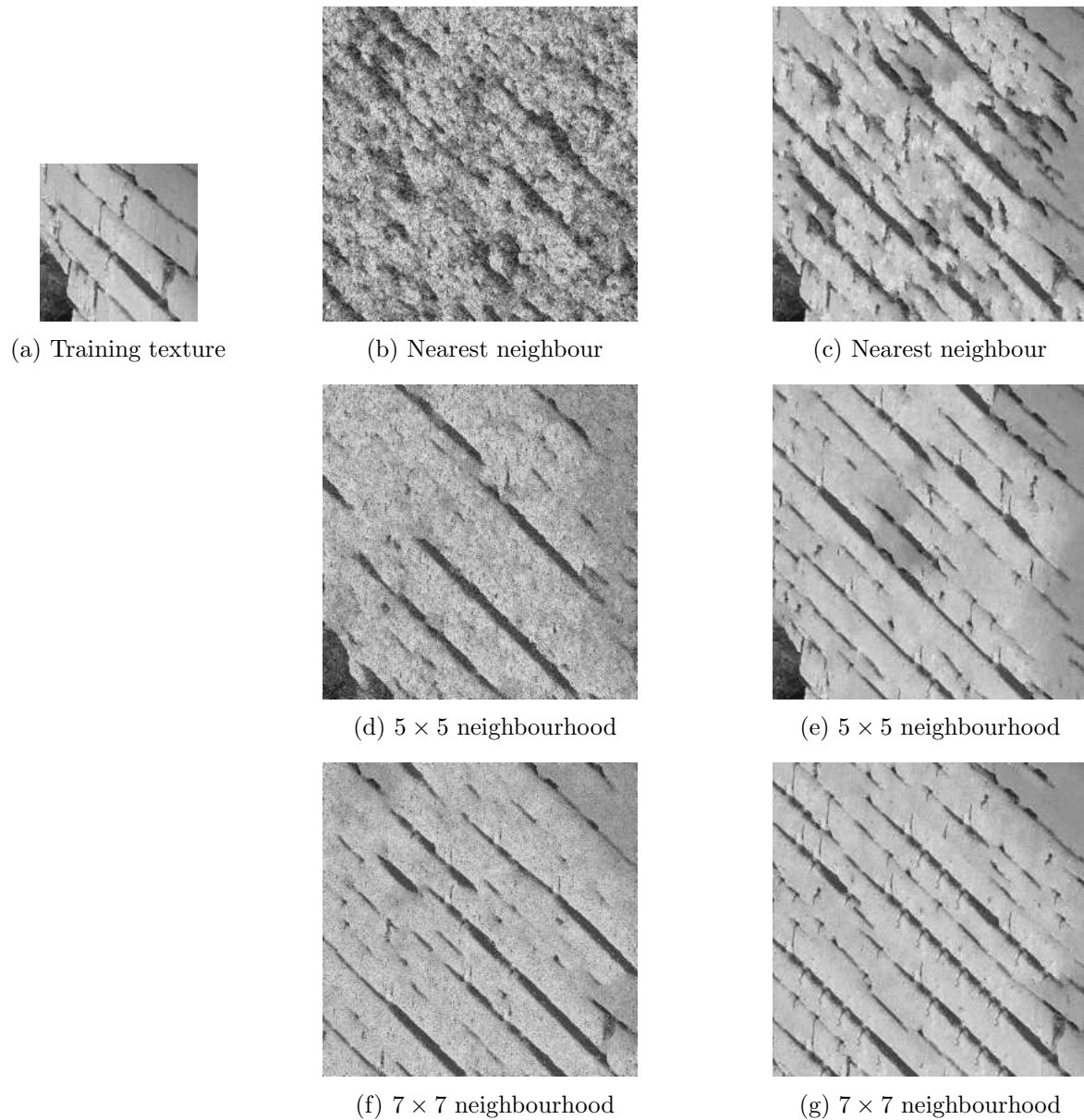


Figure B.92: VisTex texture Brick.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

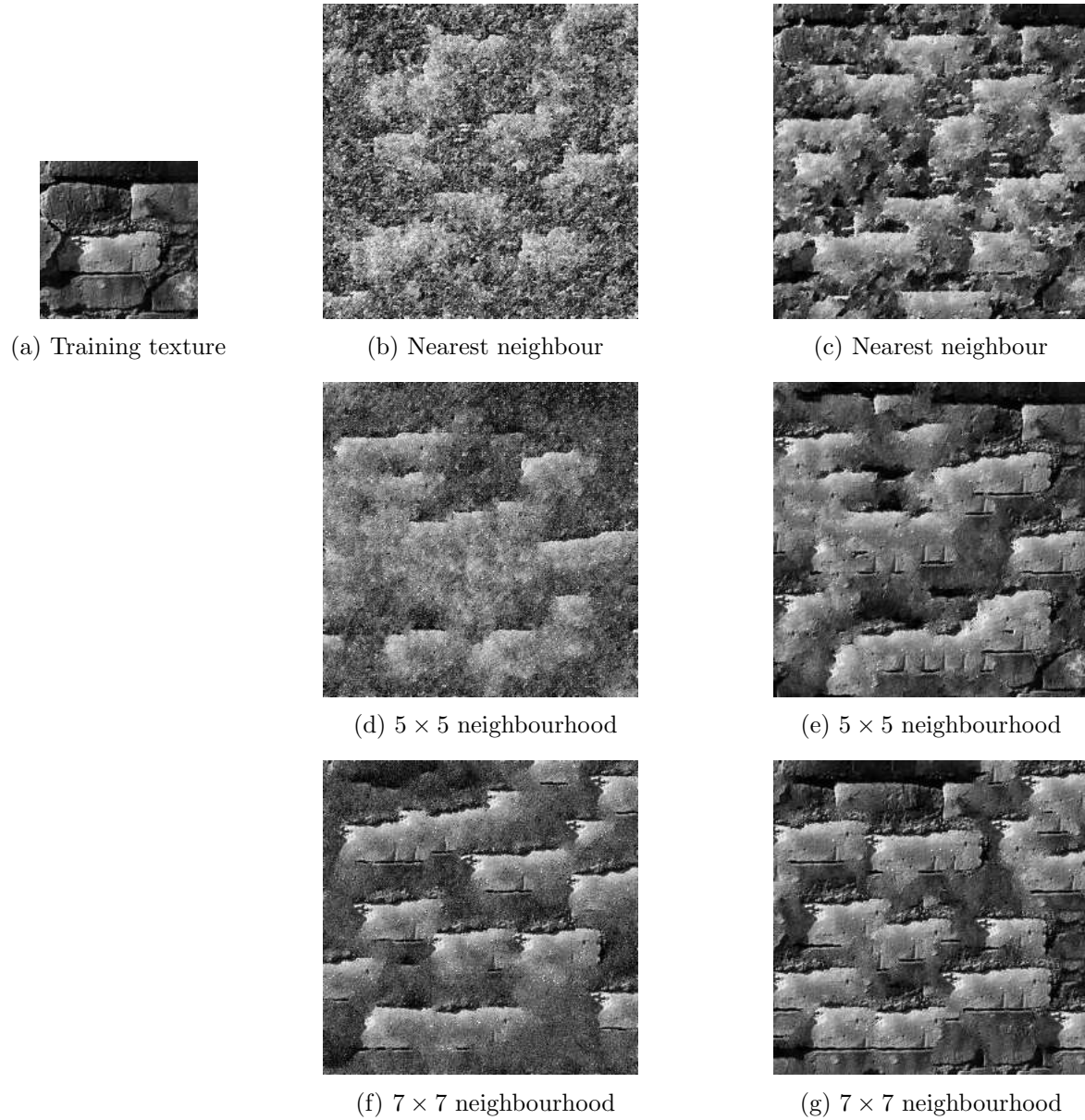


Figure B.93: VisTex texture Brick.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

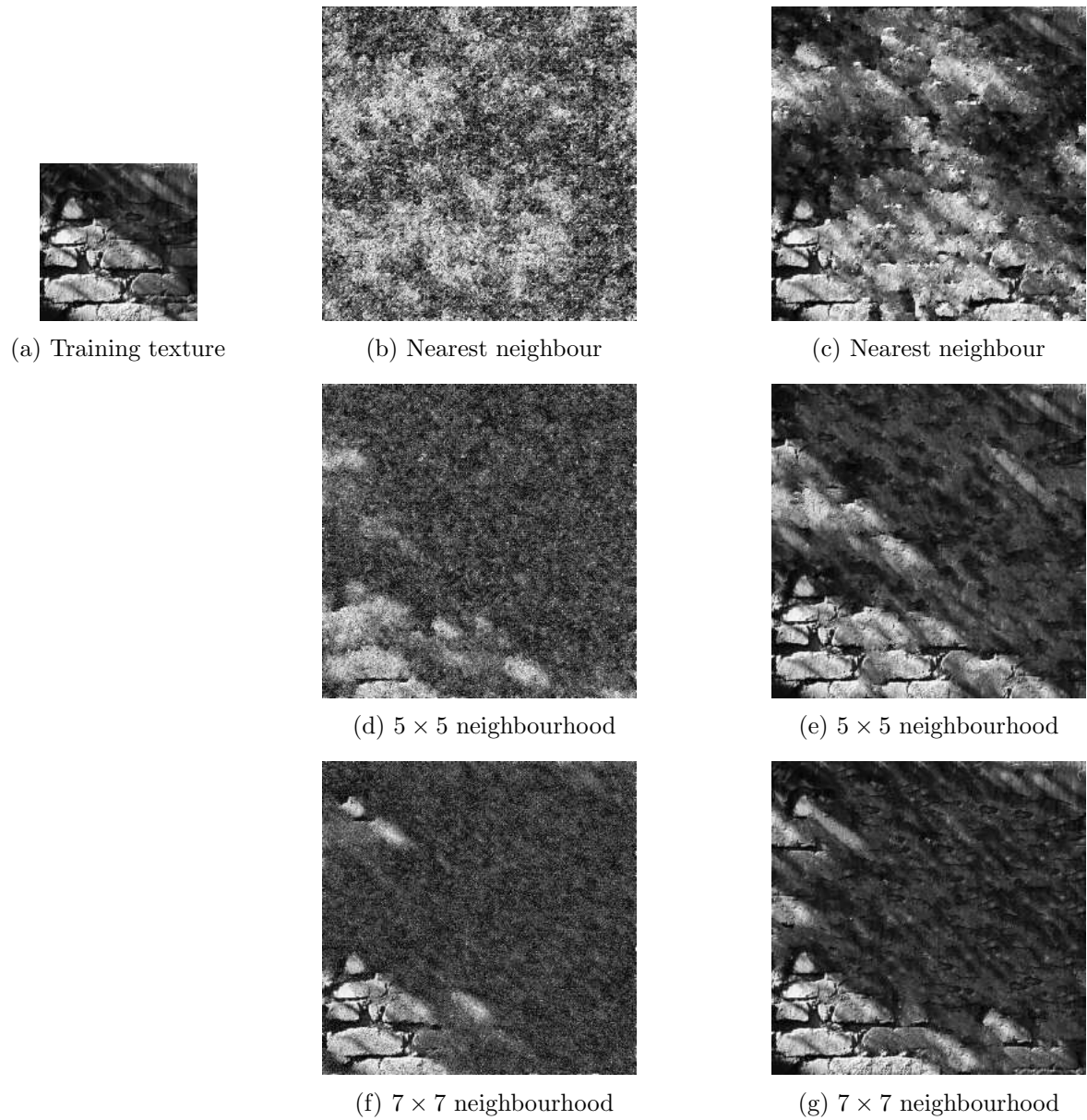


Figure B.94: VisTex texture Brick.0008: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

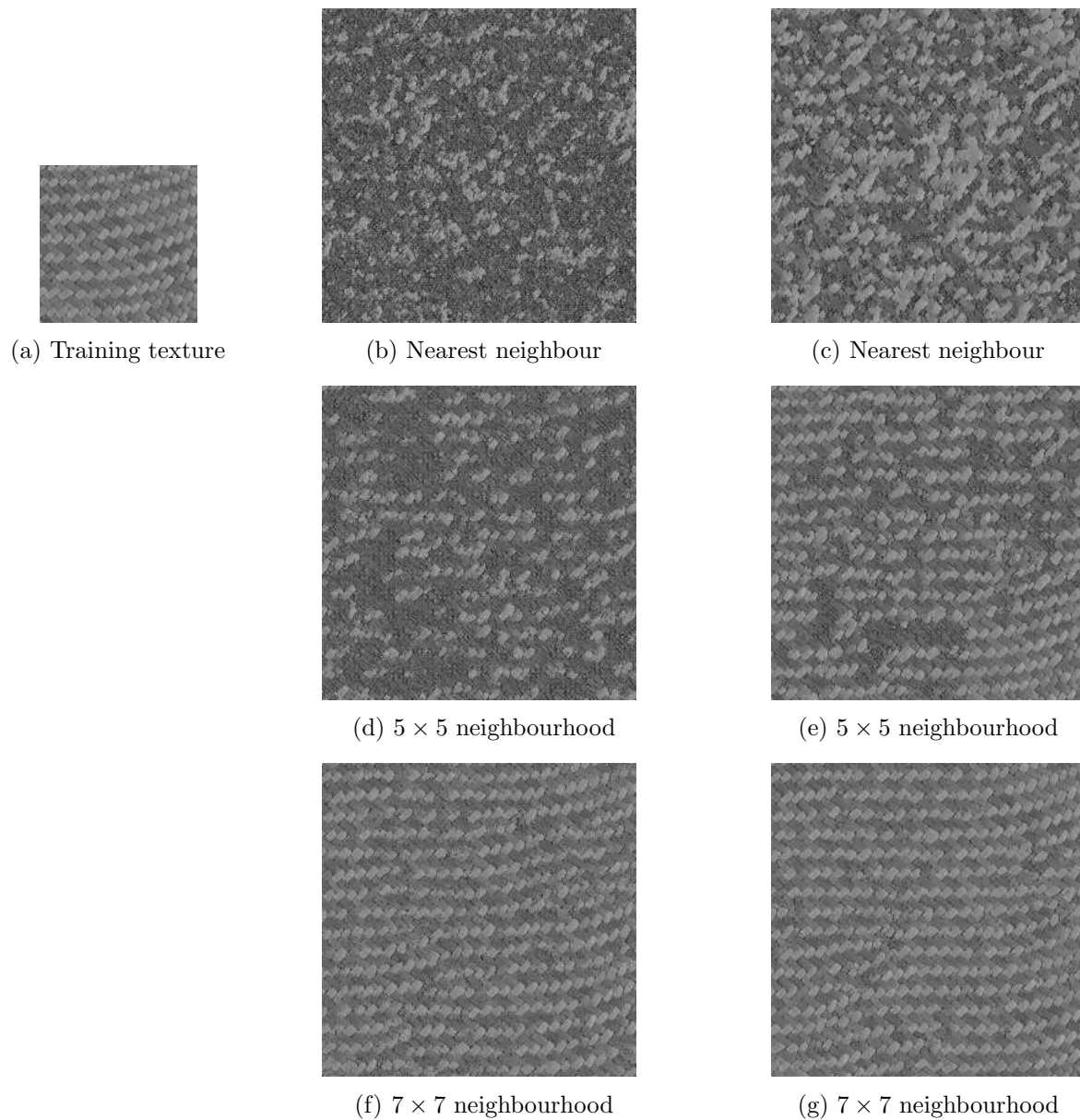


Figure B.95: VisTex texture Fabric.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

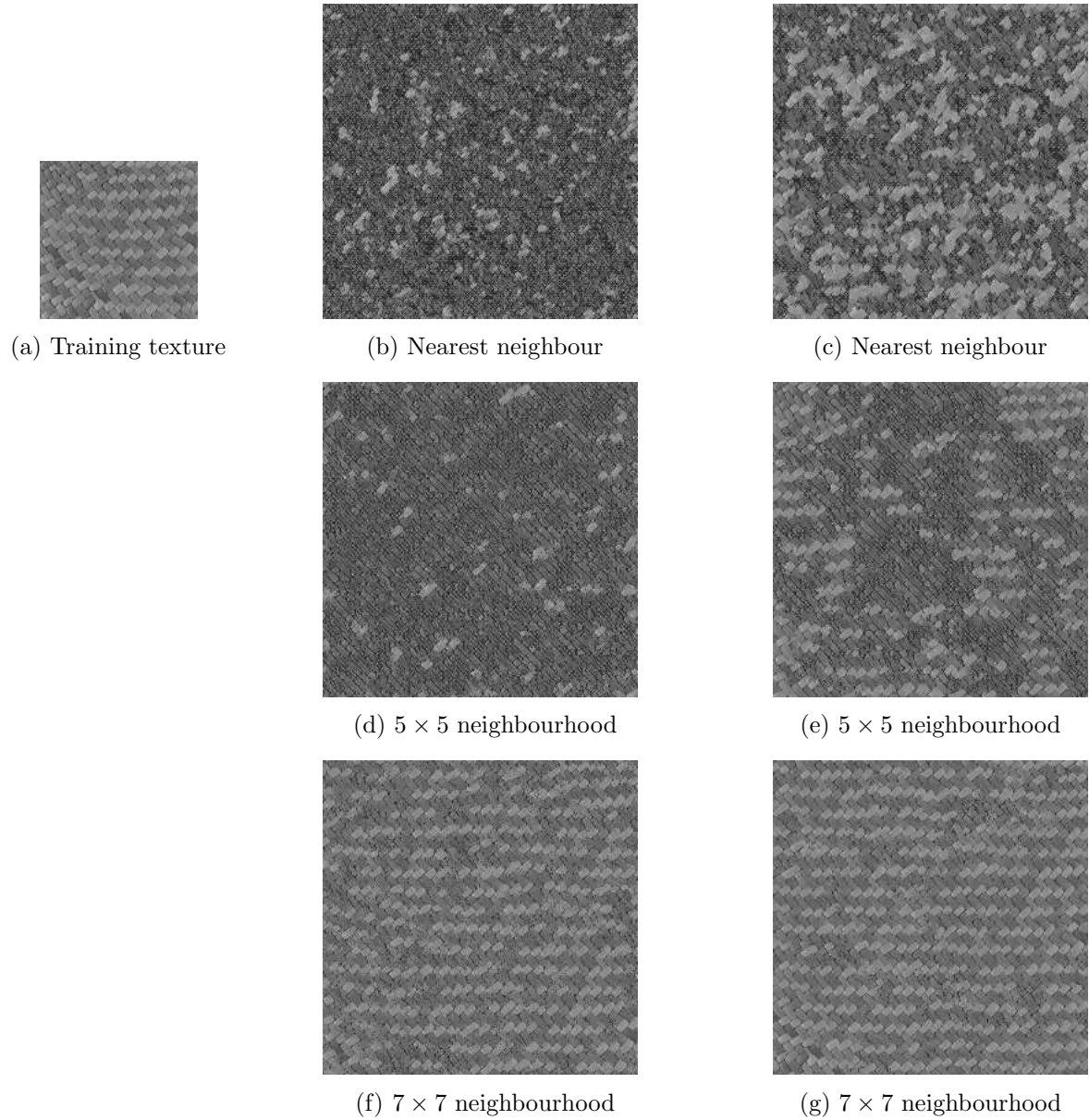


Figure B.96: VisTex texture Fabric.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

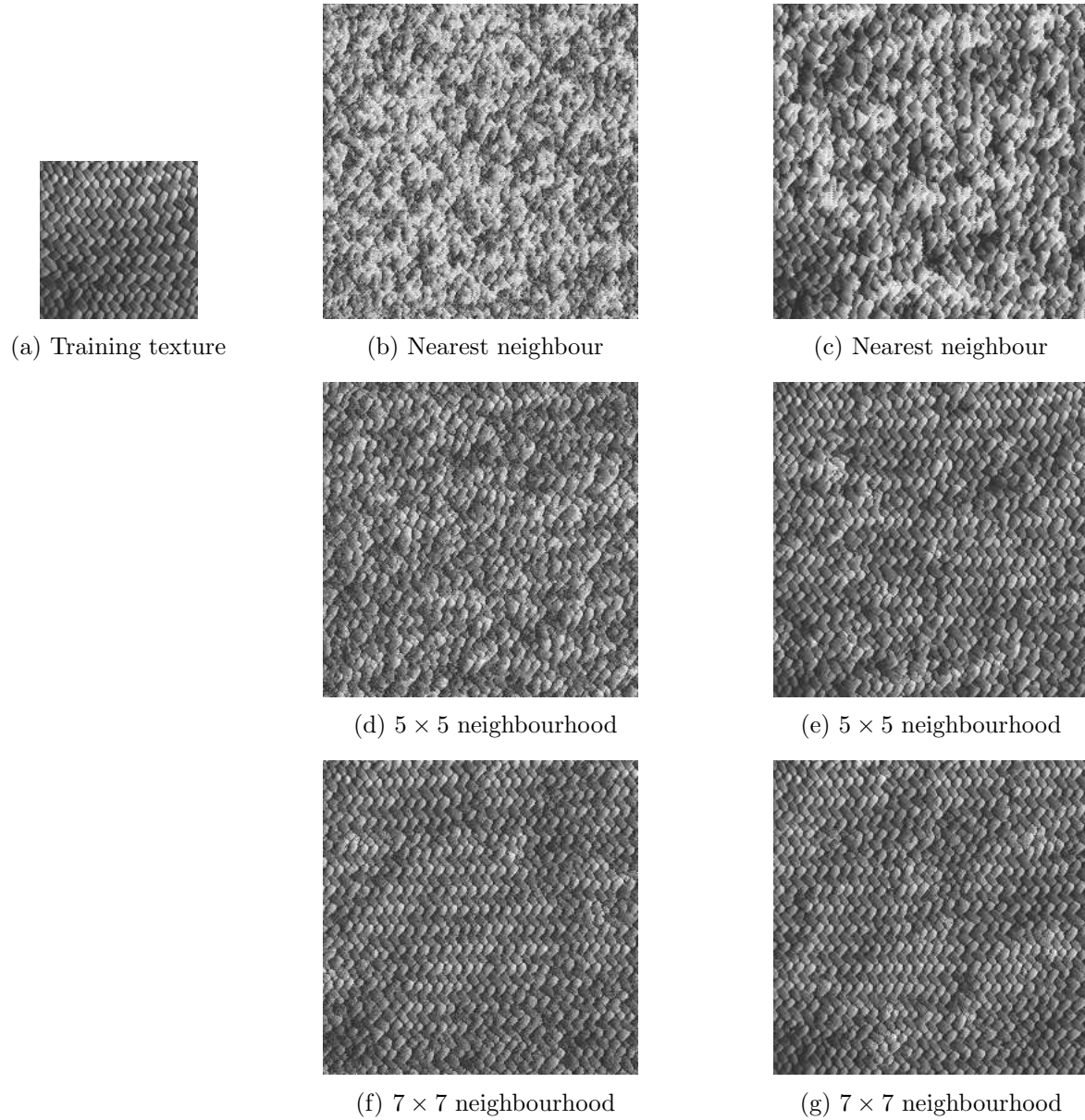


Figure B.97: VisTex texture Fabric.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

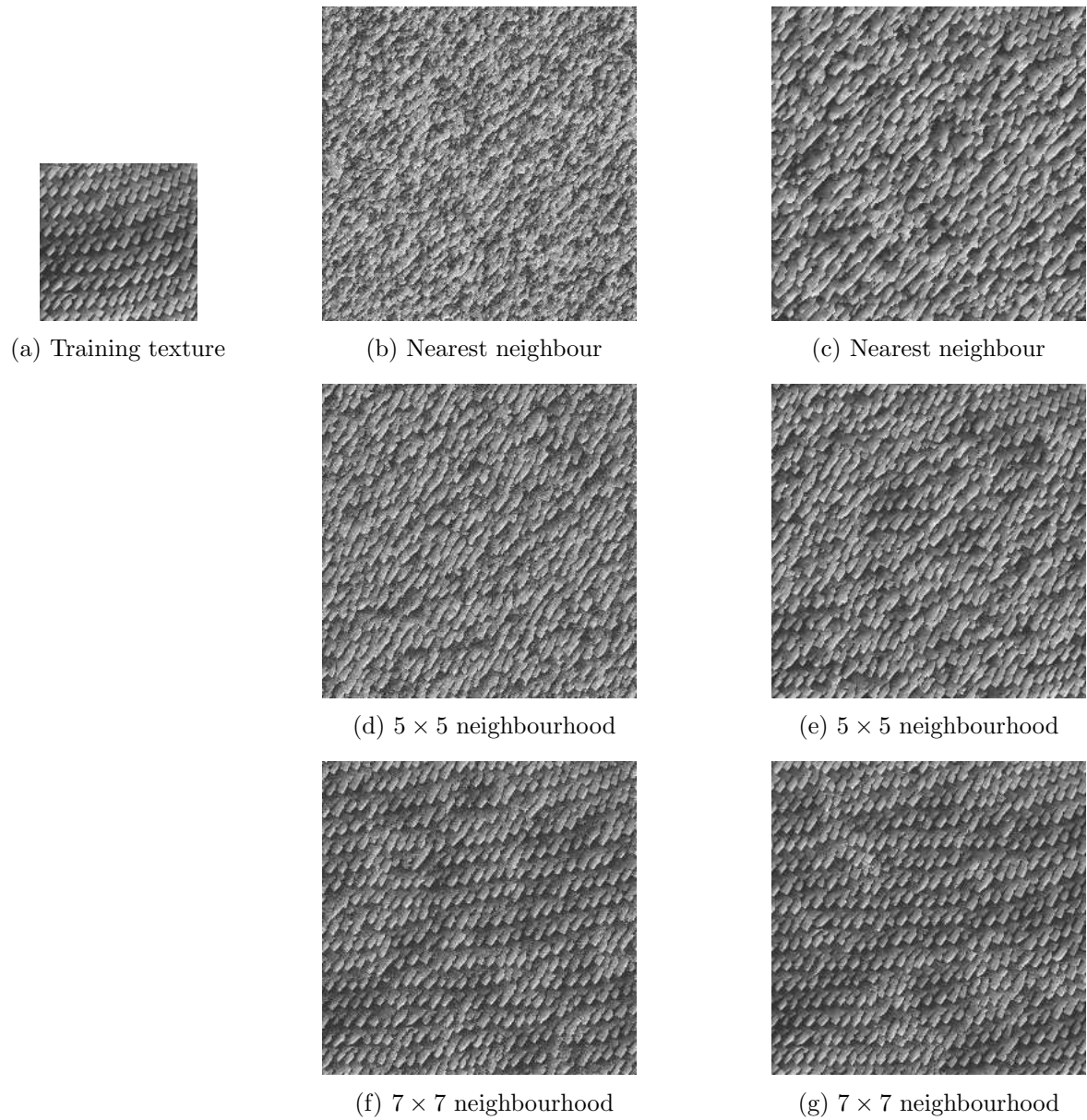


Figure B.98: VisTex texture Fabric.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

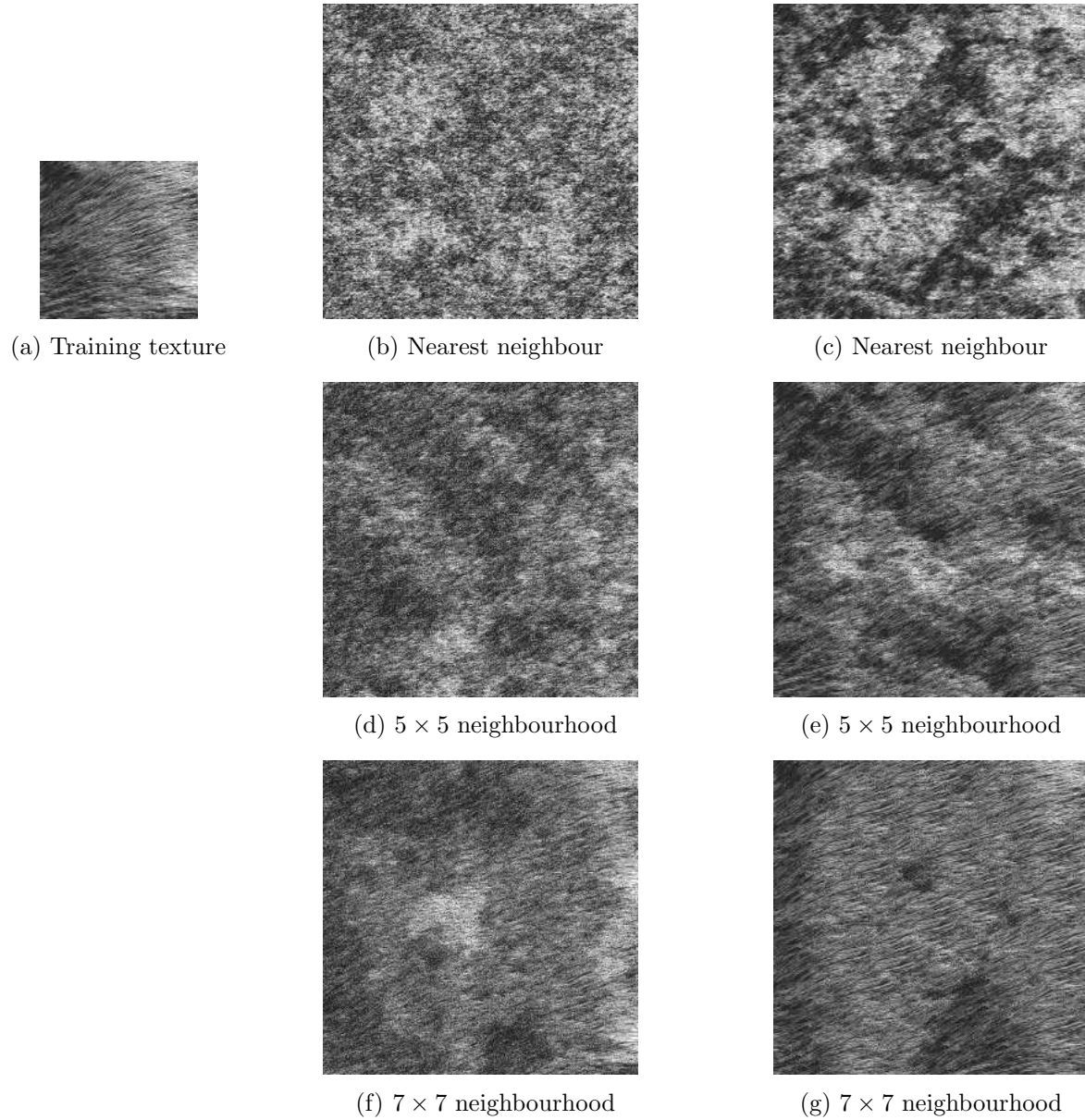


Figure B.99: VisTex texture Fabric.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

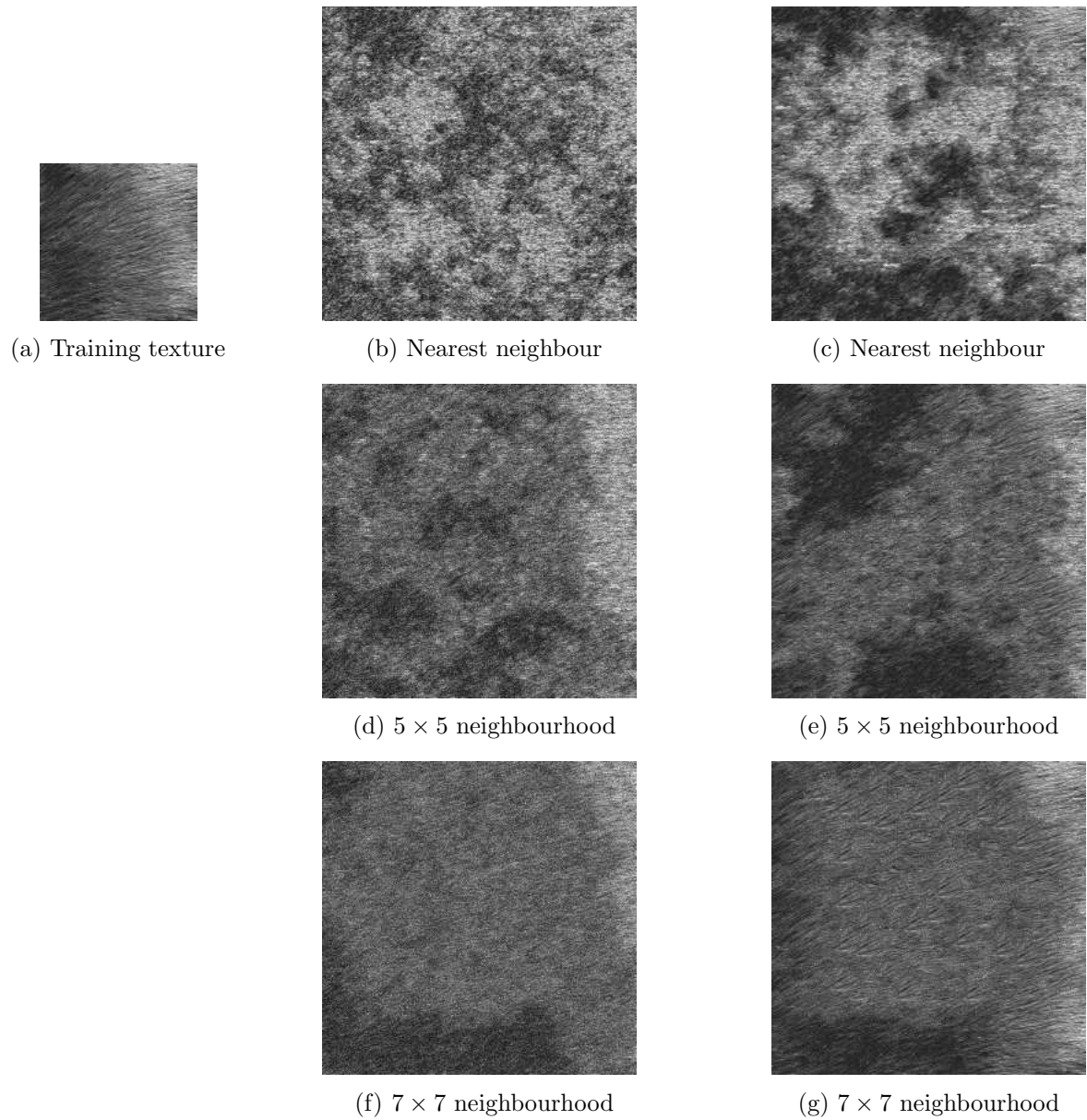


Figure B.100: VisTex texture Fabric.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

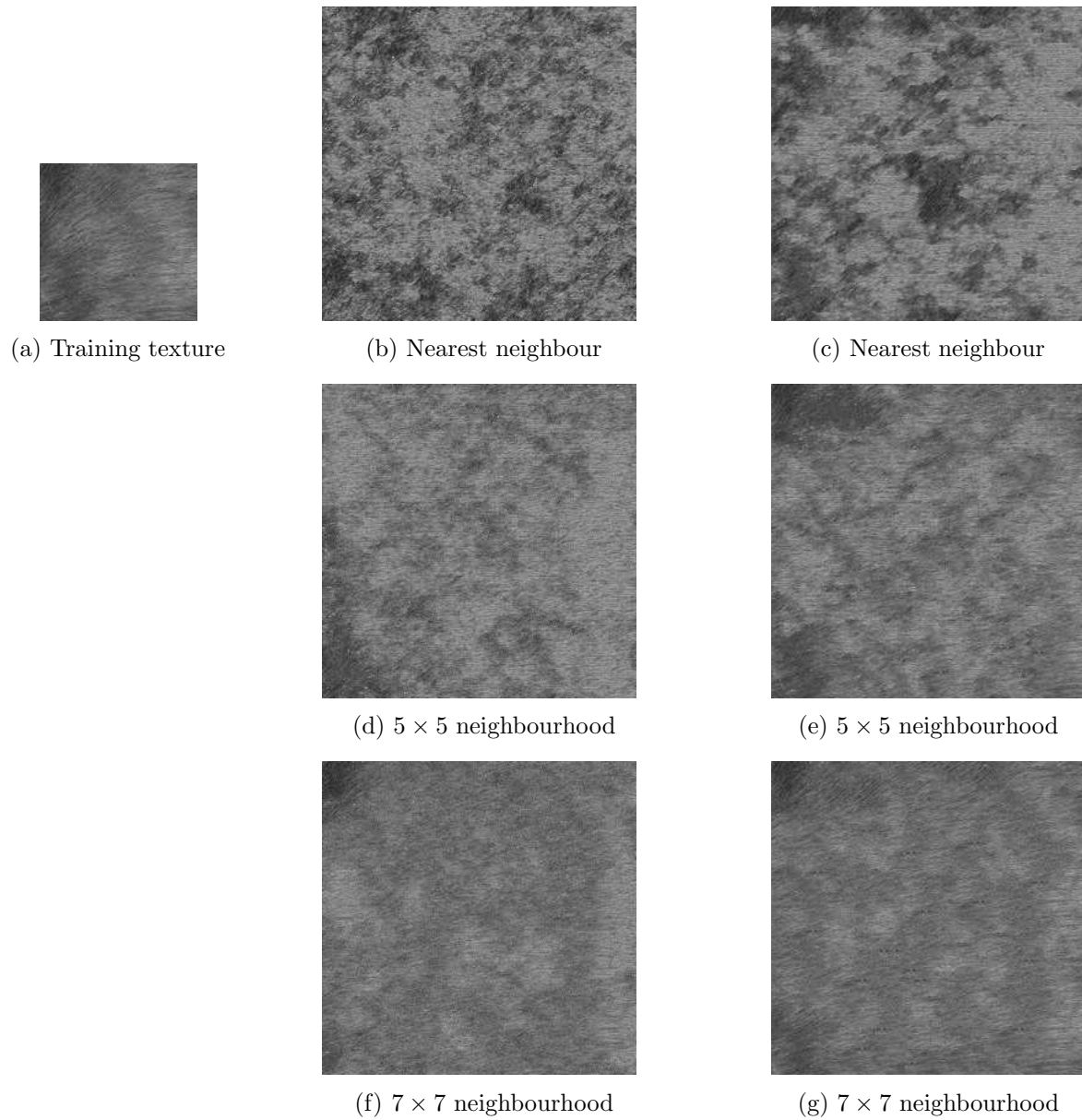


Figure B.101: VisTex texture Fabric.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

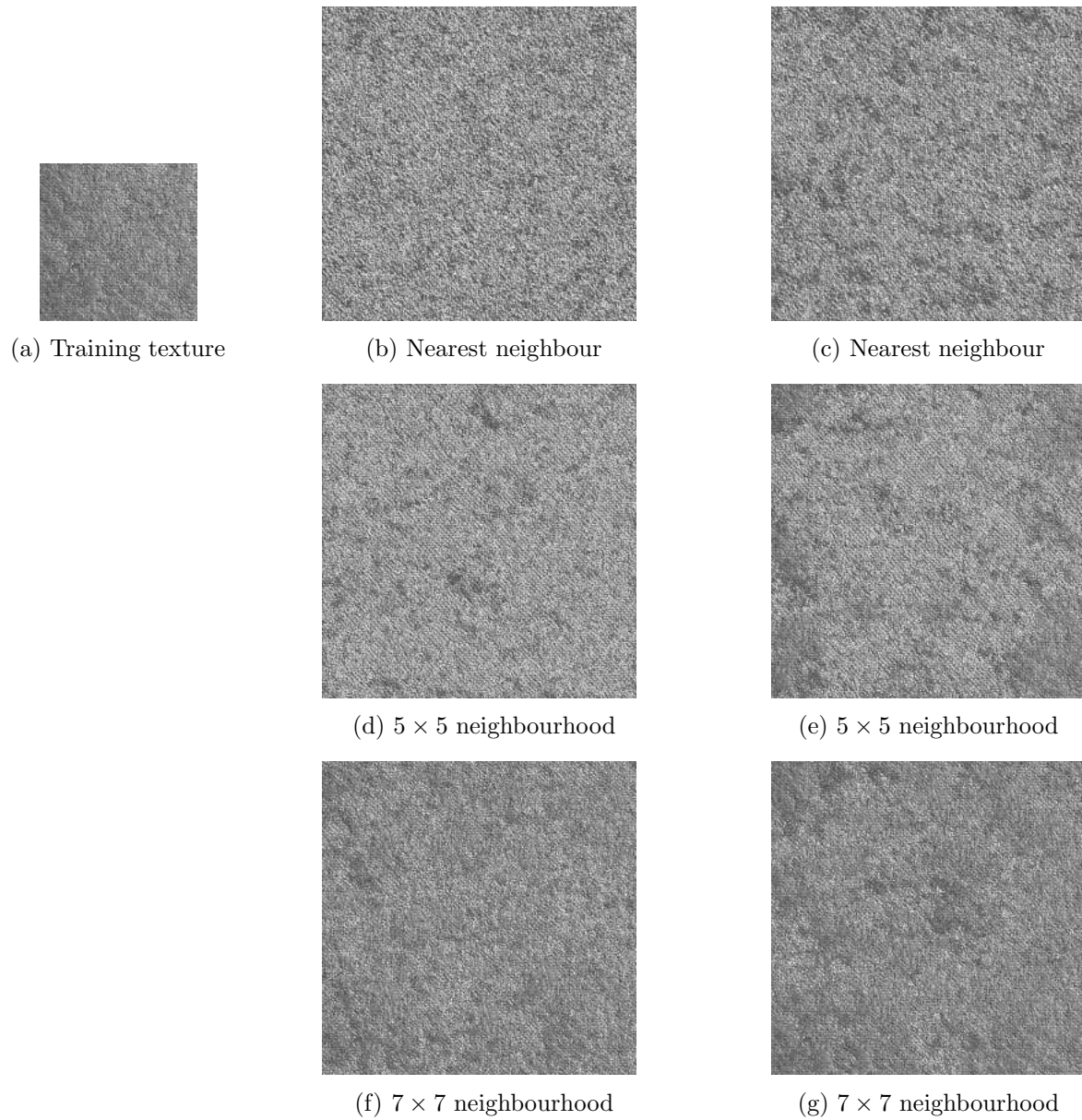


Figure B.102: VisTex texture Fabric.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

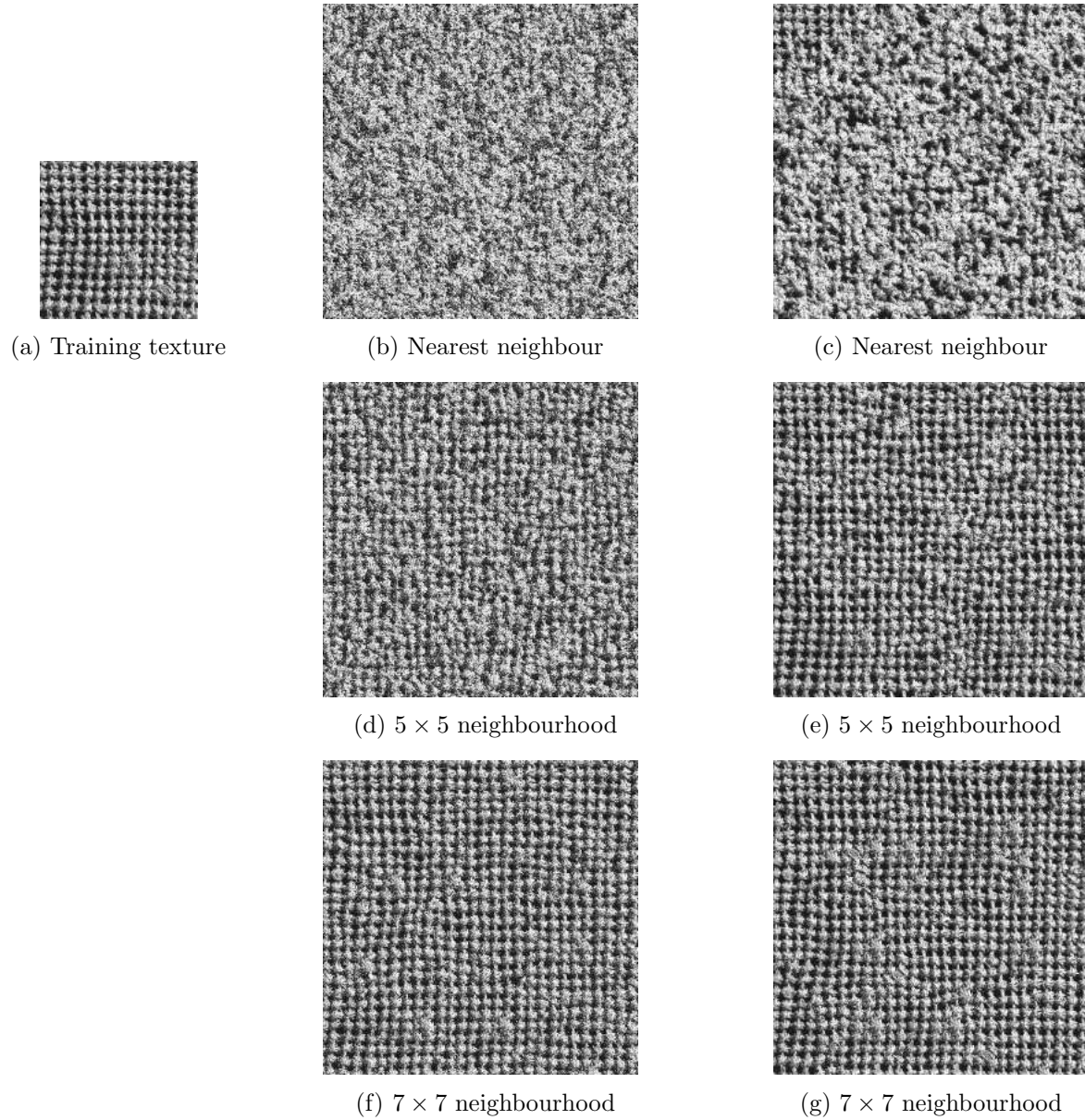


Figure B.103: VisTex texture Fabric.0008: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

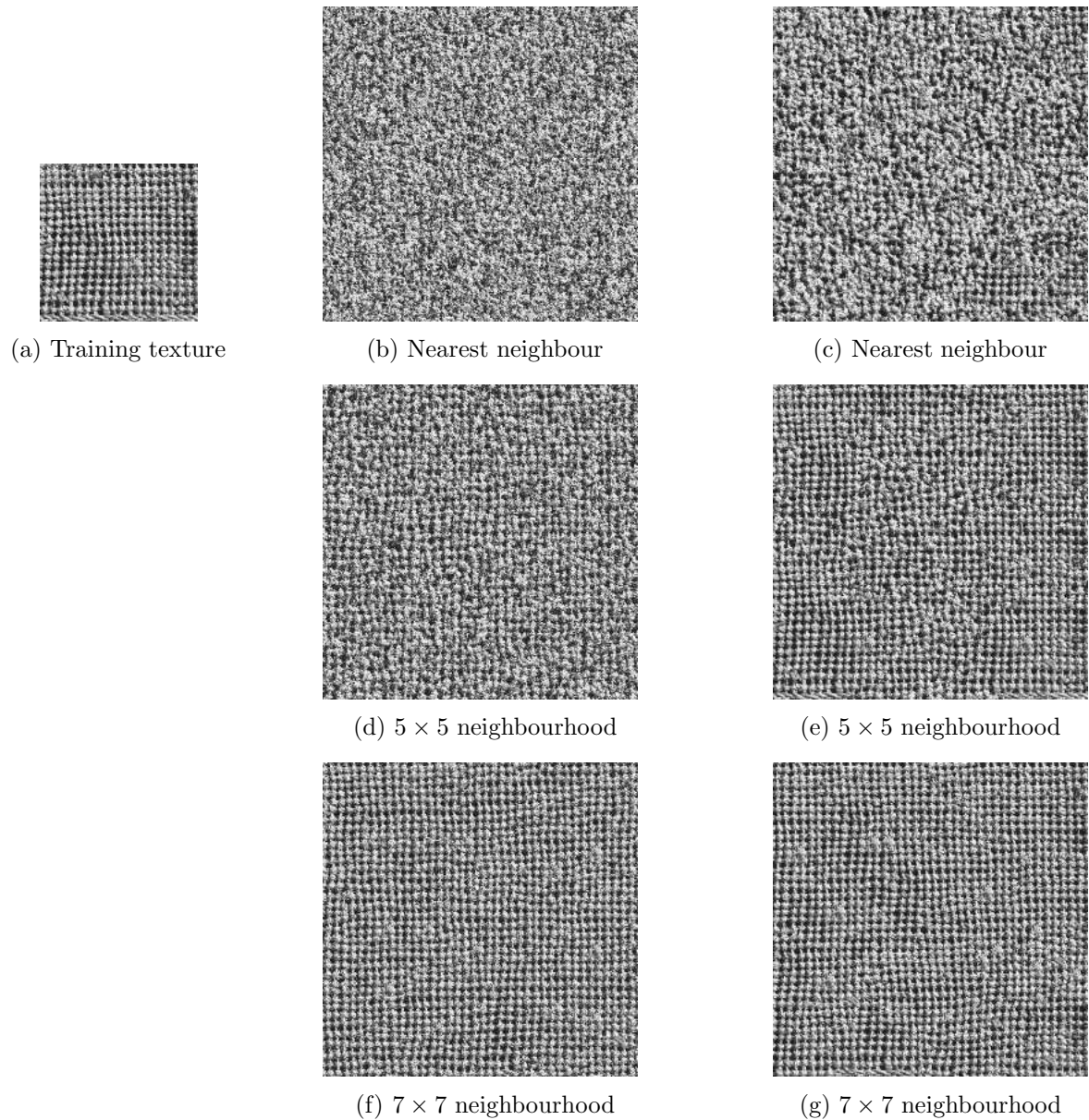


Figure B.104: VisTex texture Fabric.0009: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

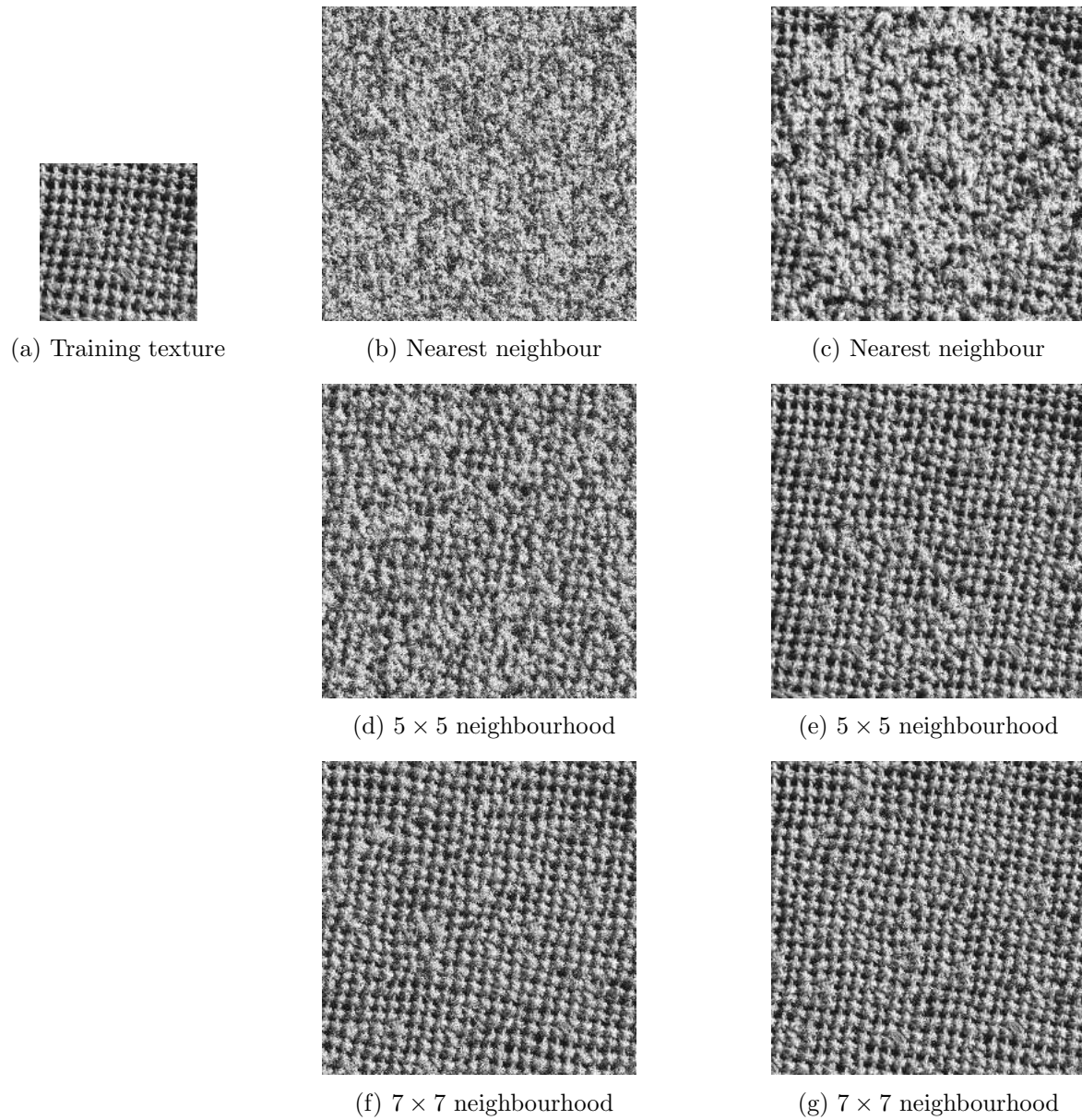


Figure B.105: VisTex texture Fabric.0010: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

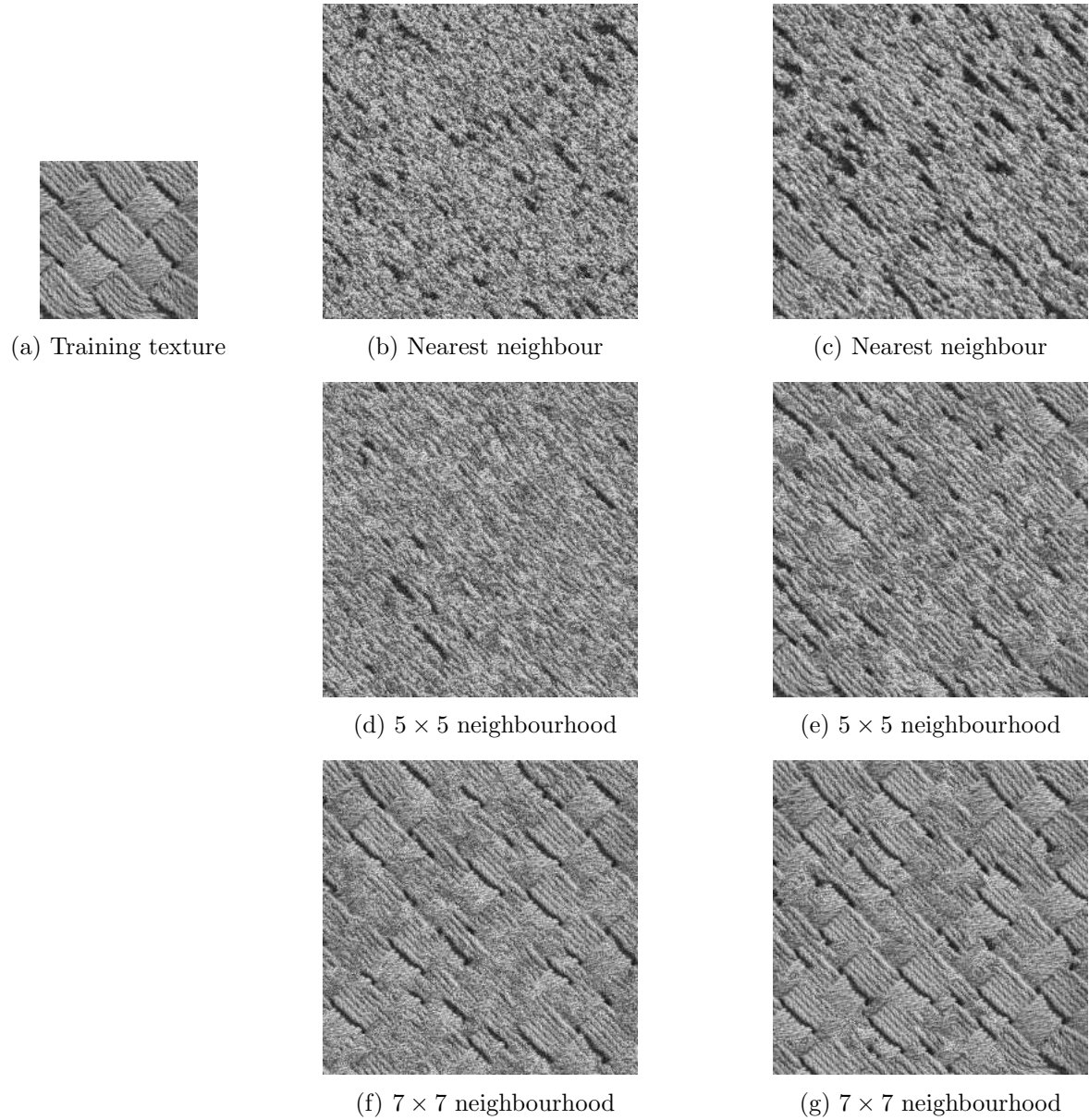


Figure B.106: VisTex texture Fabric.0011: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

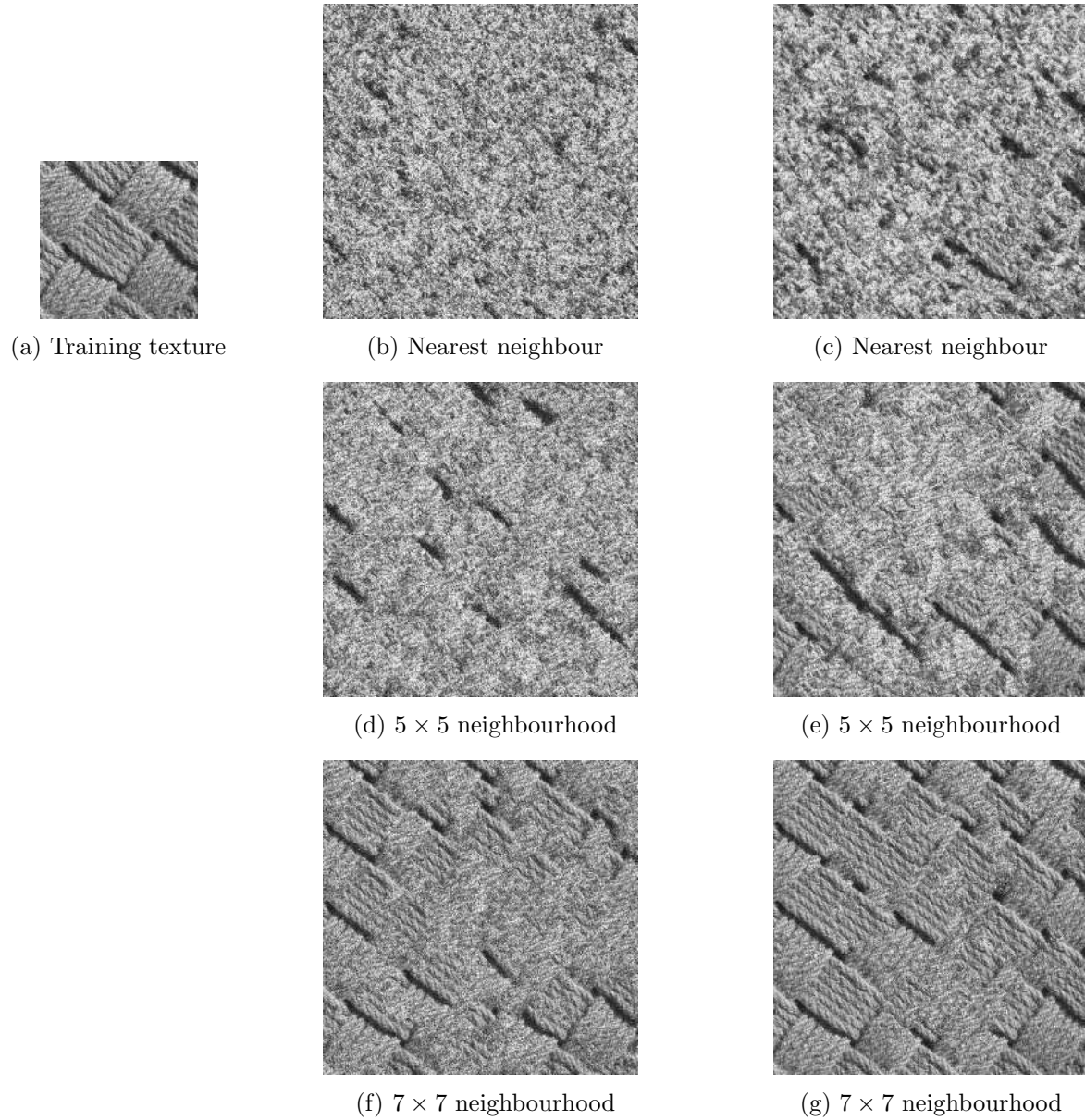


Figure B.107: VisTex texture Fabric.0012: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

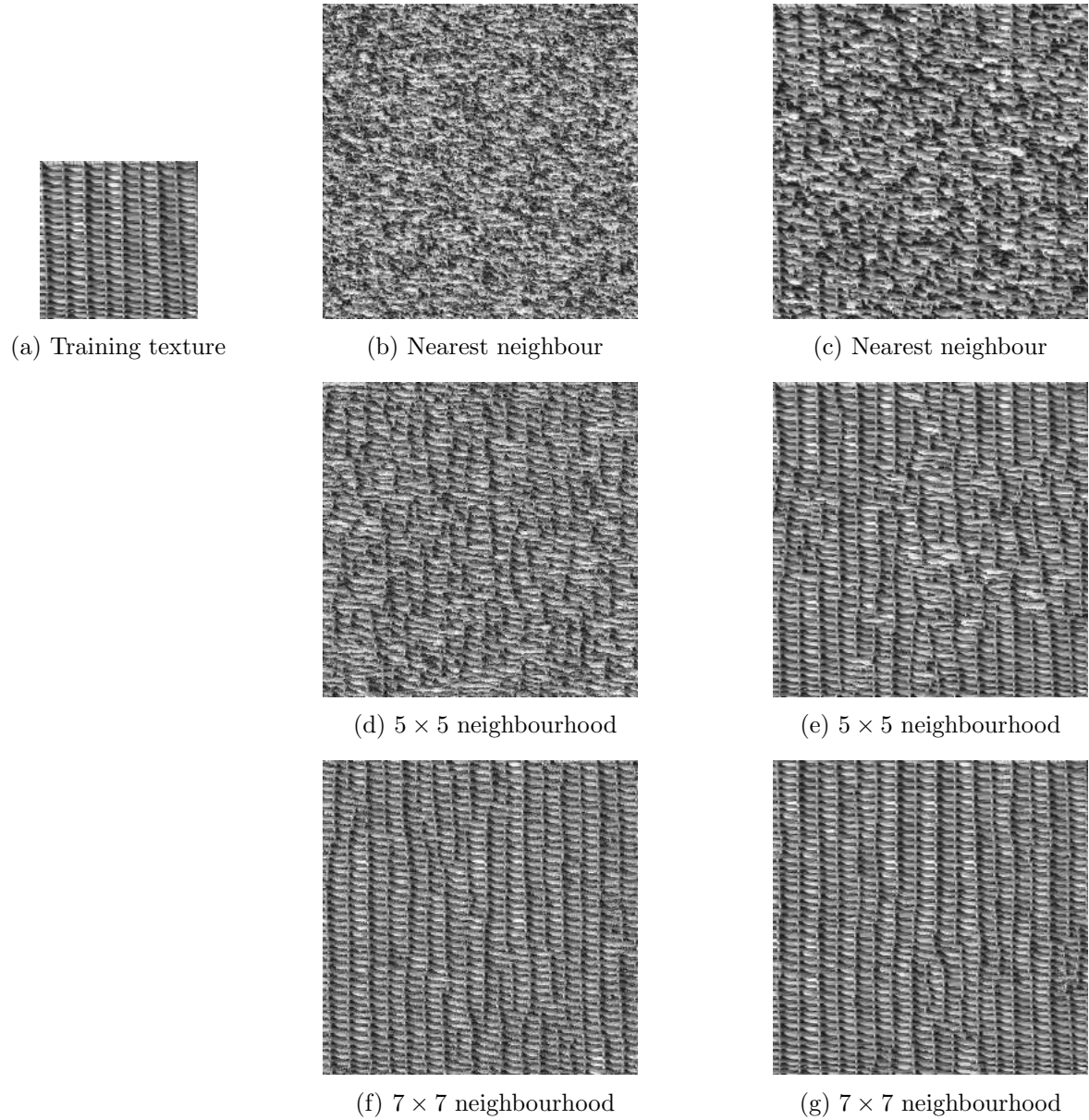


Figure B.108: VisTex texture Fabric.0013: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

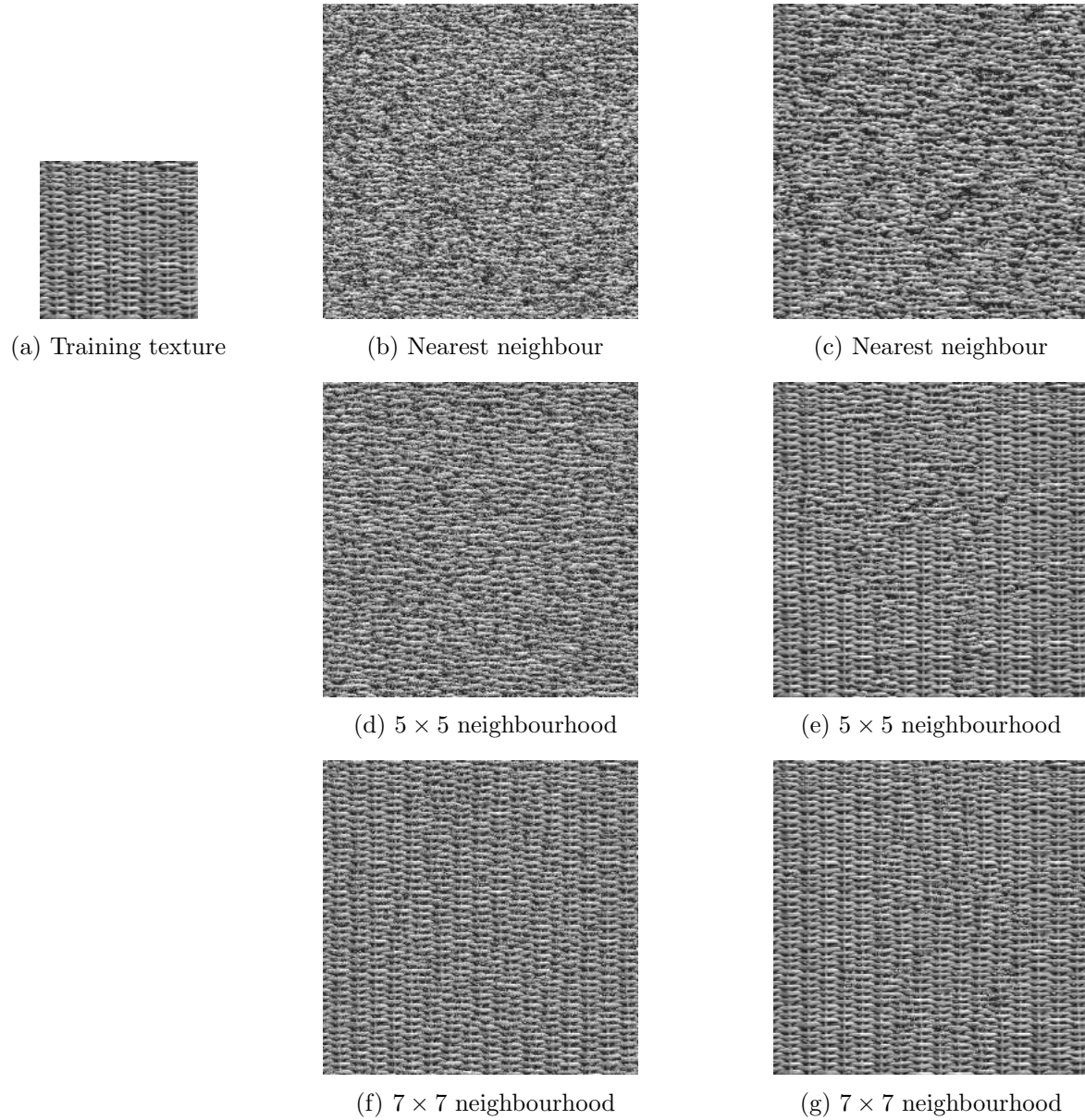


Figure B.109: VisTex texture Fabric.0014: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

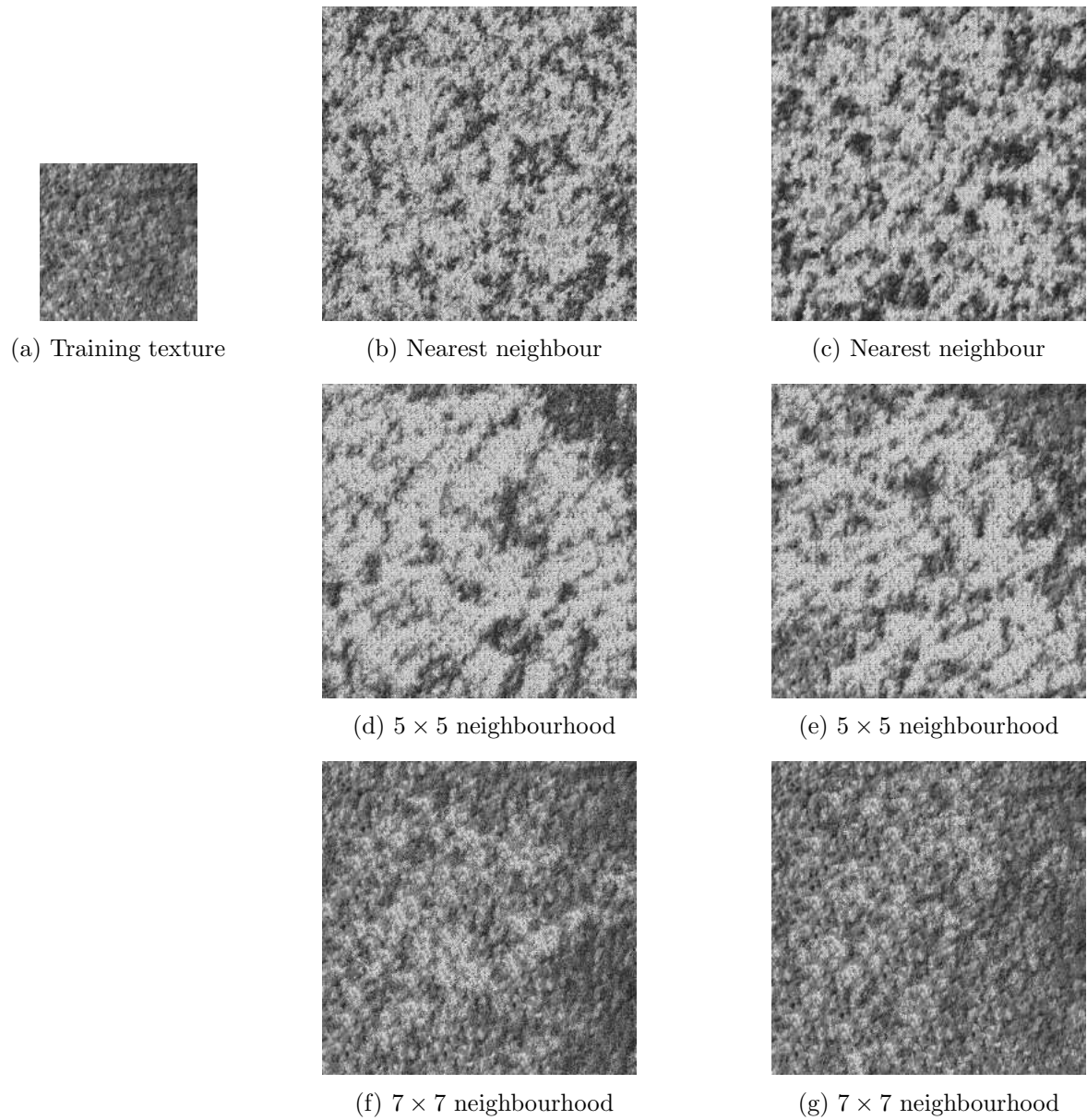


Figure B.110: VisTex texture Fabric.0015: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

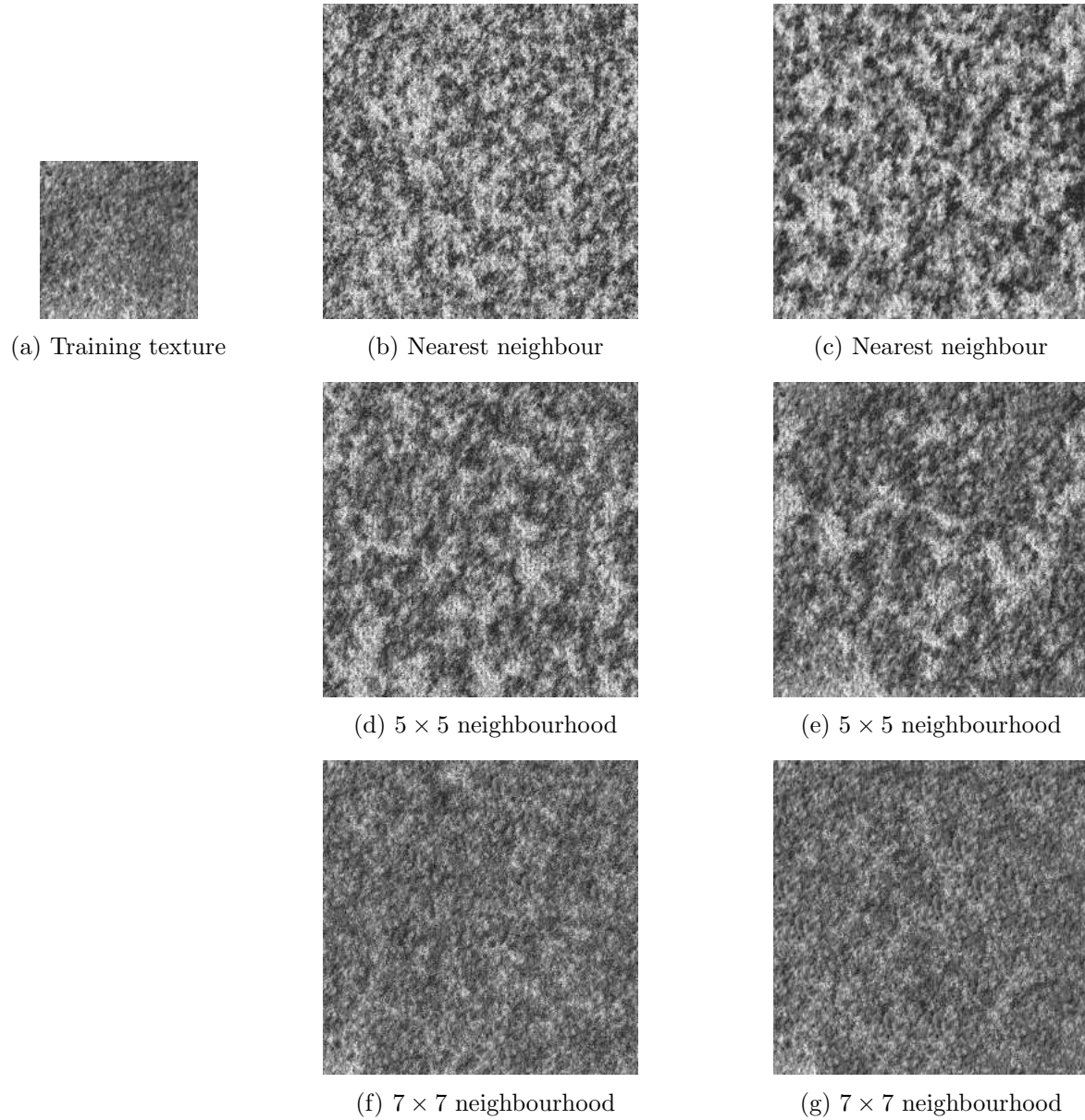


Figure B.111: VisTex texture Fabric.0016: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

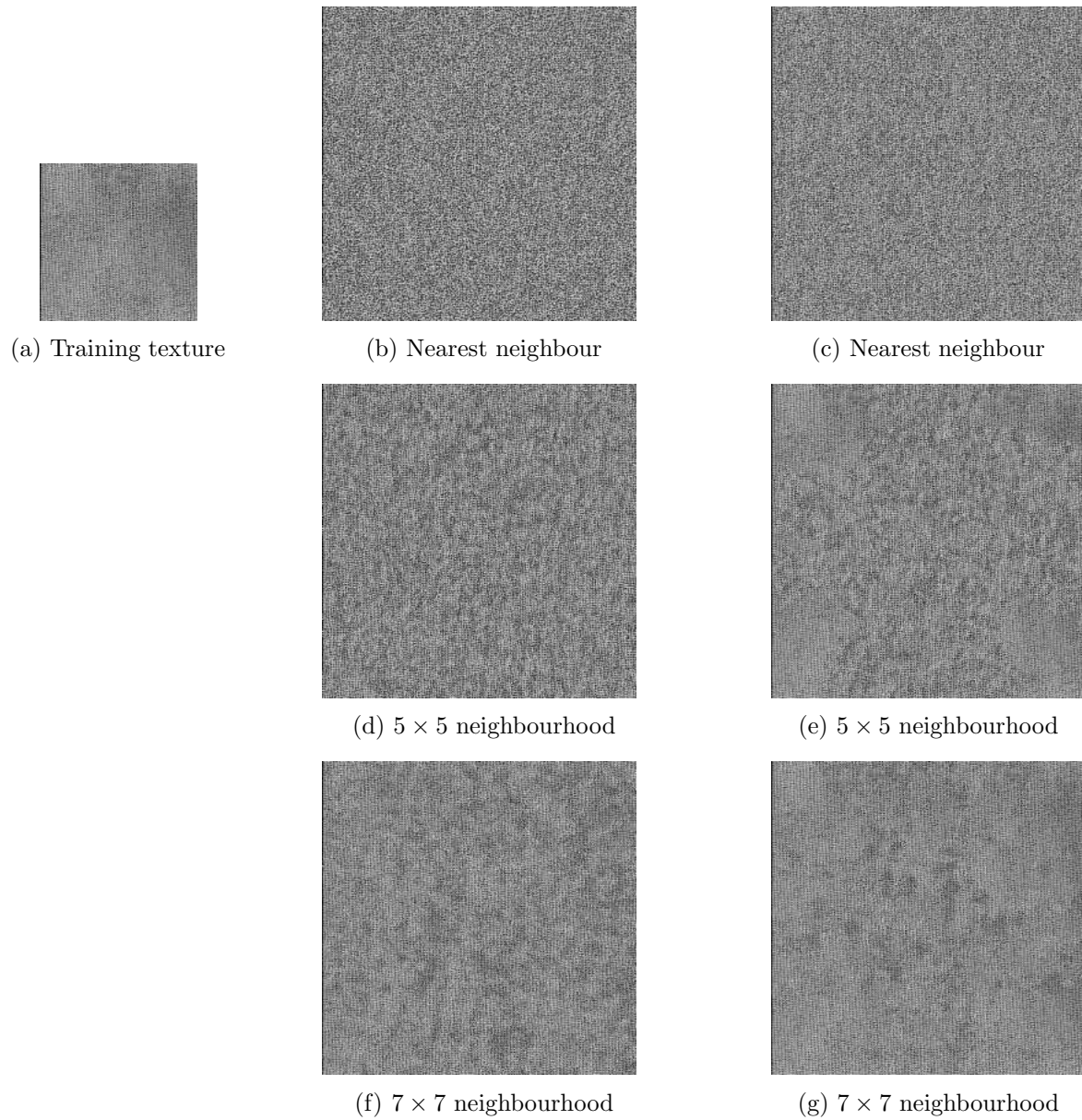


Figure B.112: VisTex texture Fabric.0017: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

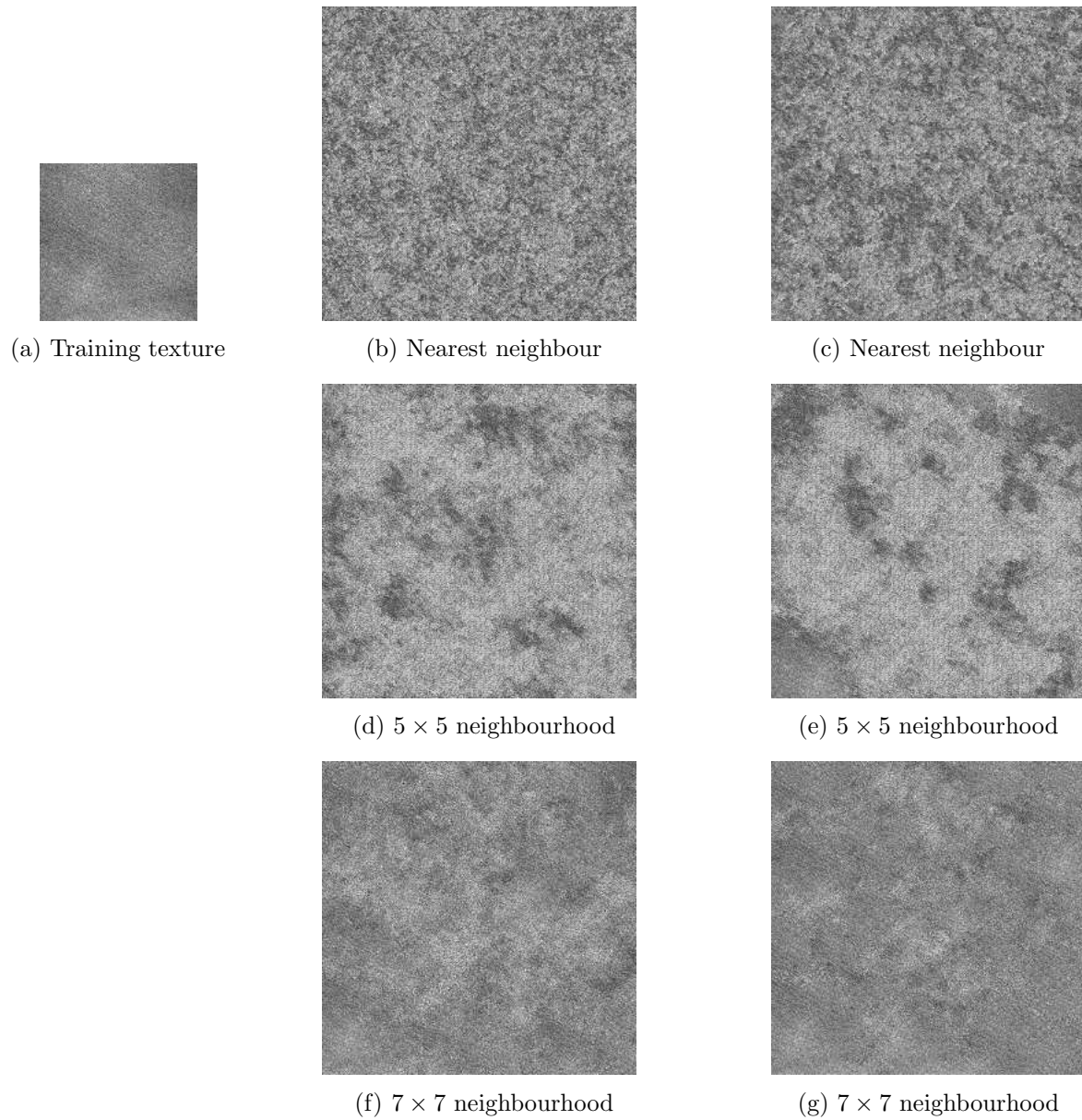


Figure B.113: VisTex texture Fabric.0018: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

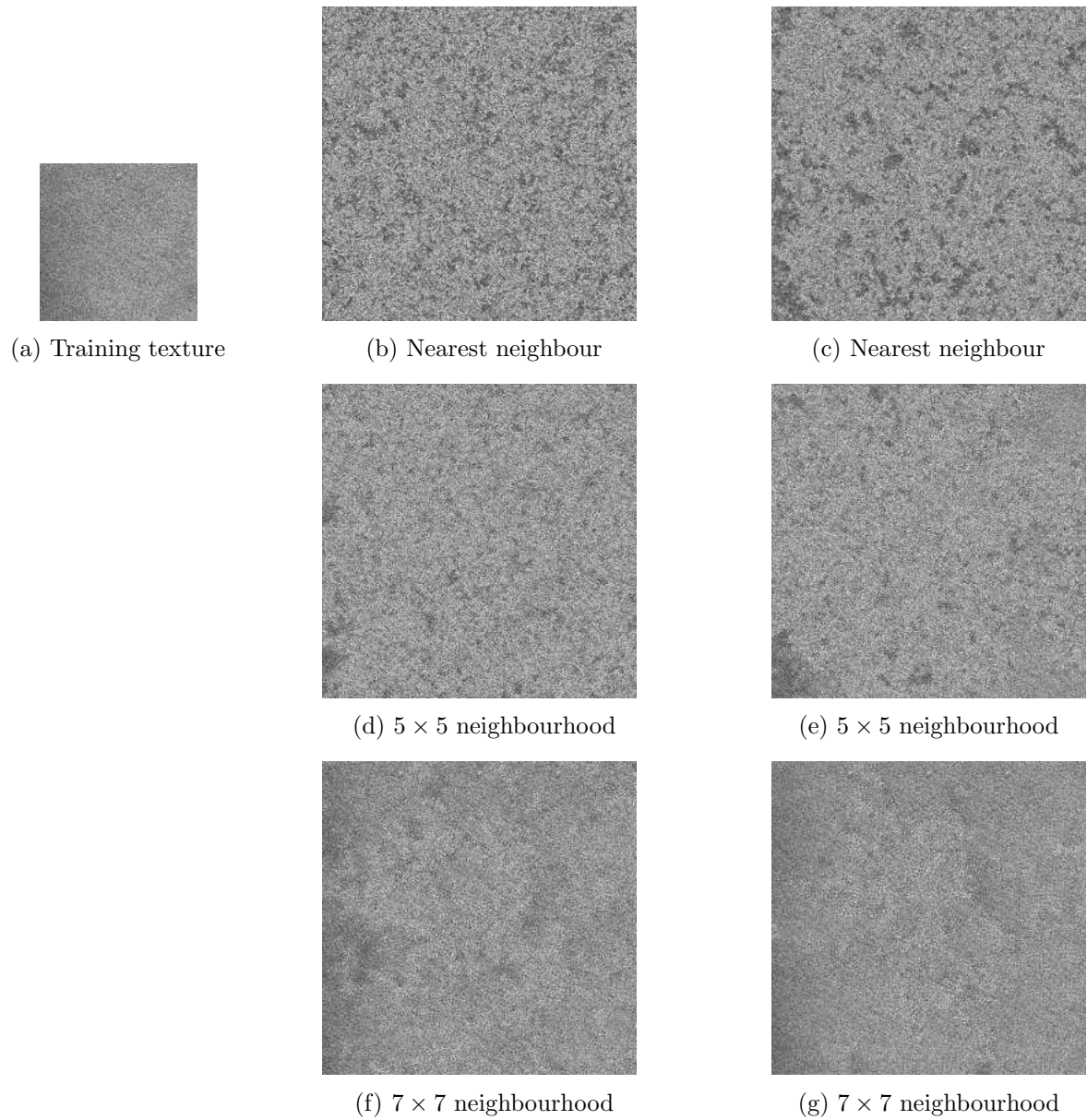


Figure B.114: VisTex texture Fabric.0019: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

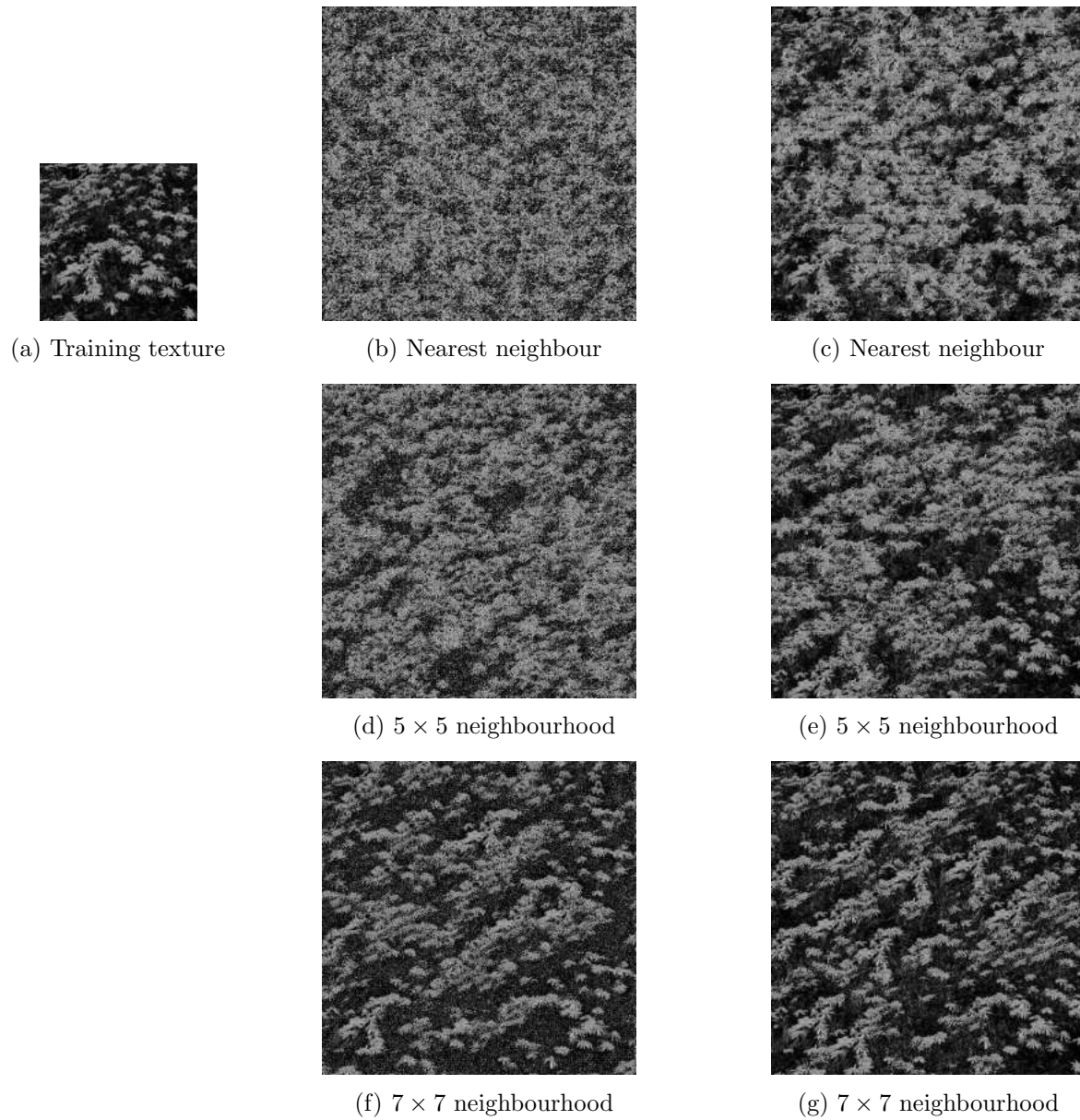


Figure B.115: VisTex texture Flowers.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

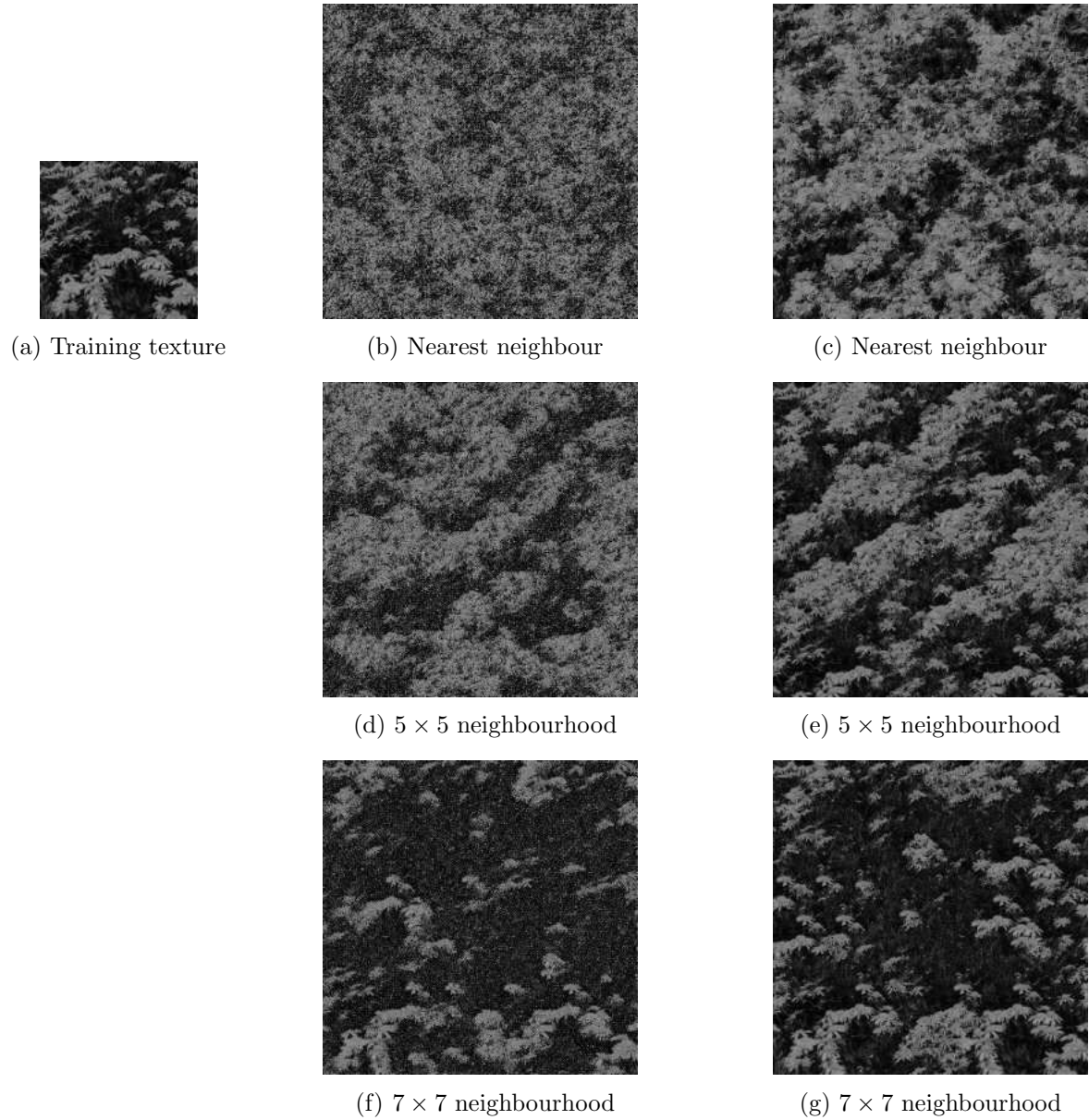


Figure B.116: VisTex texture Flowers.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

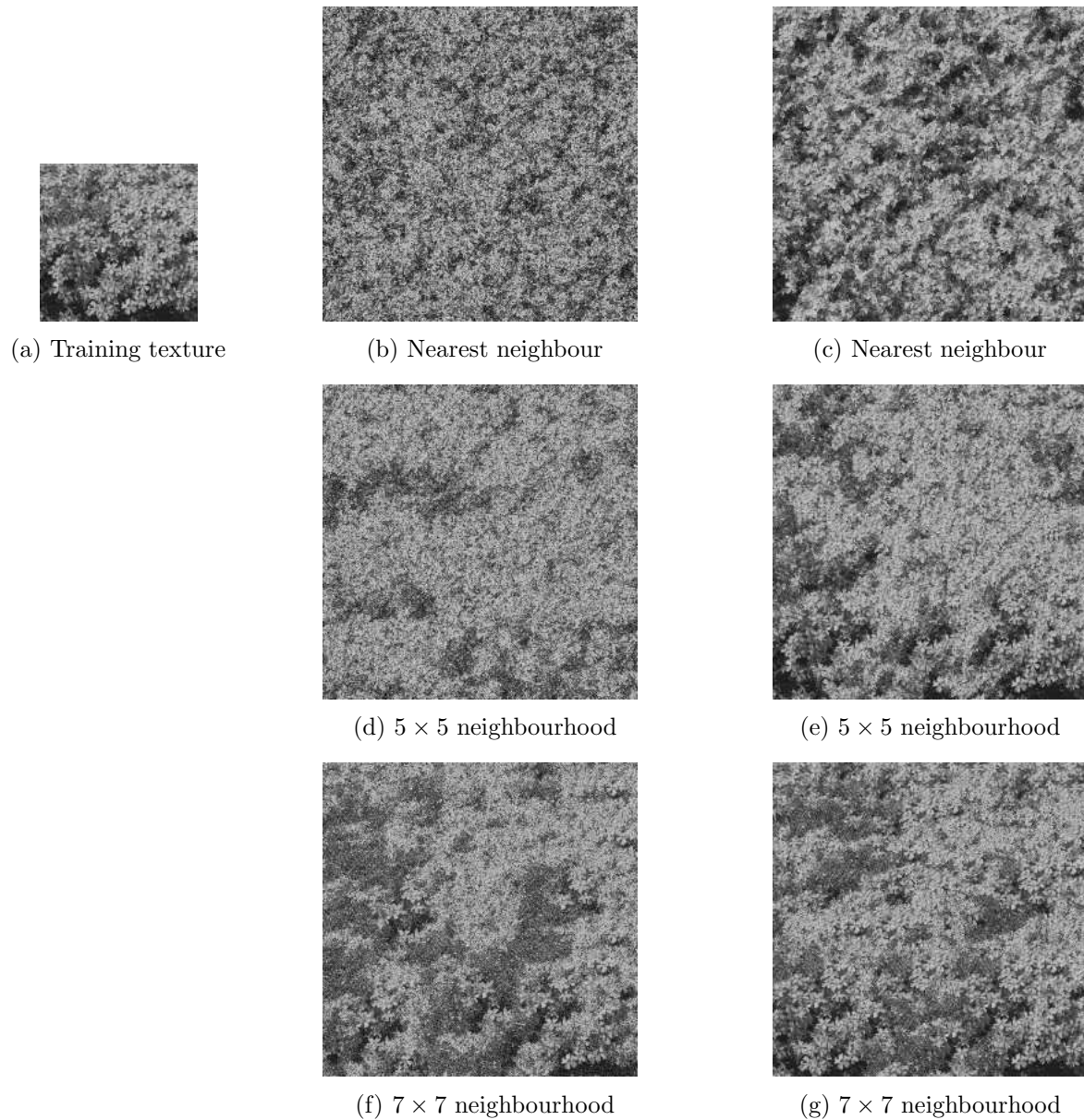


Figure B.117: VisTex texture Flowers.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

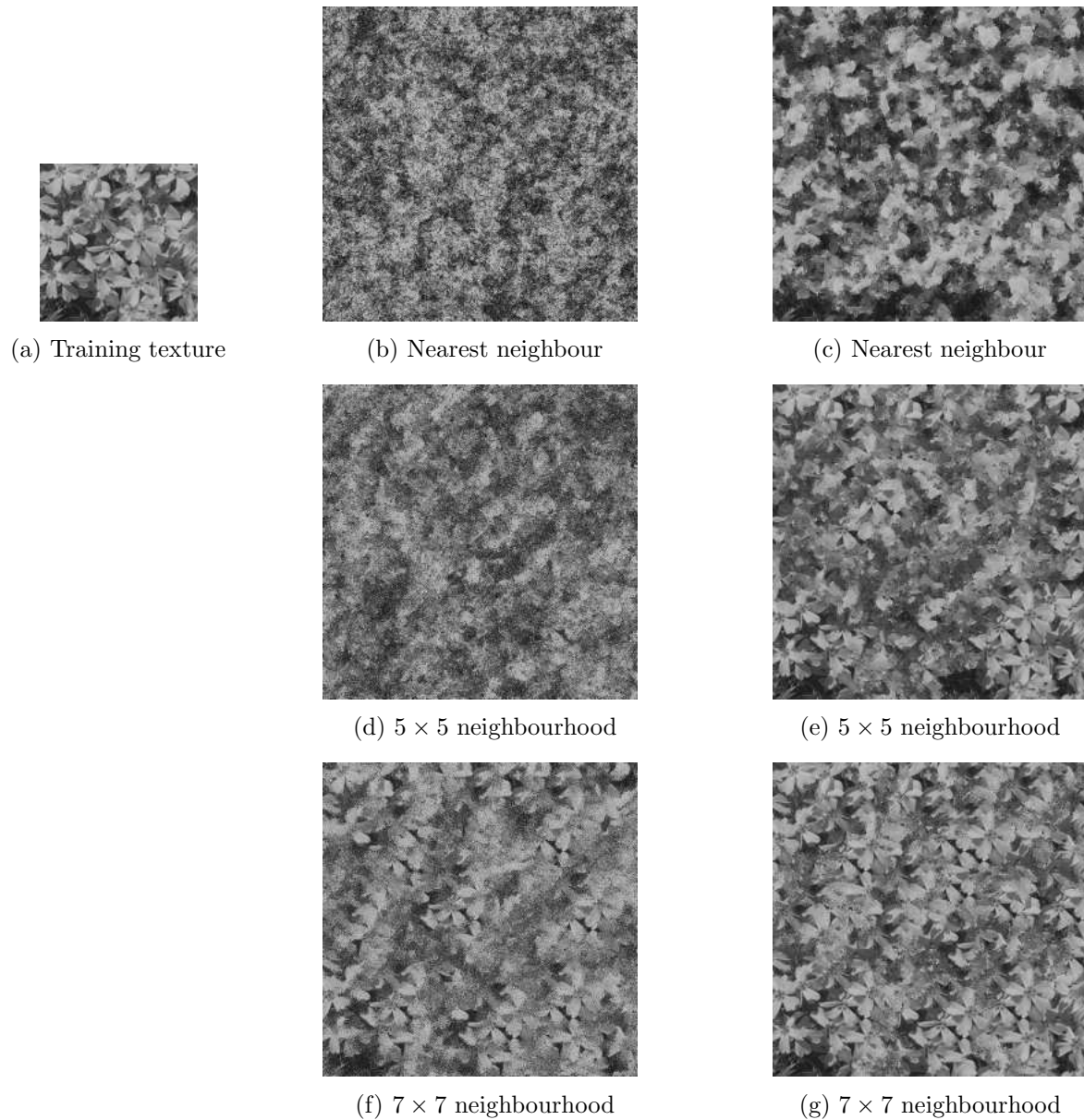


Figure B.118: VisTex texture Flowers.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

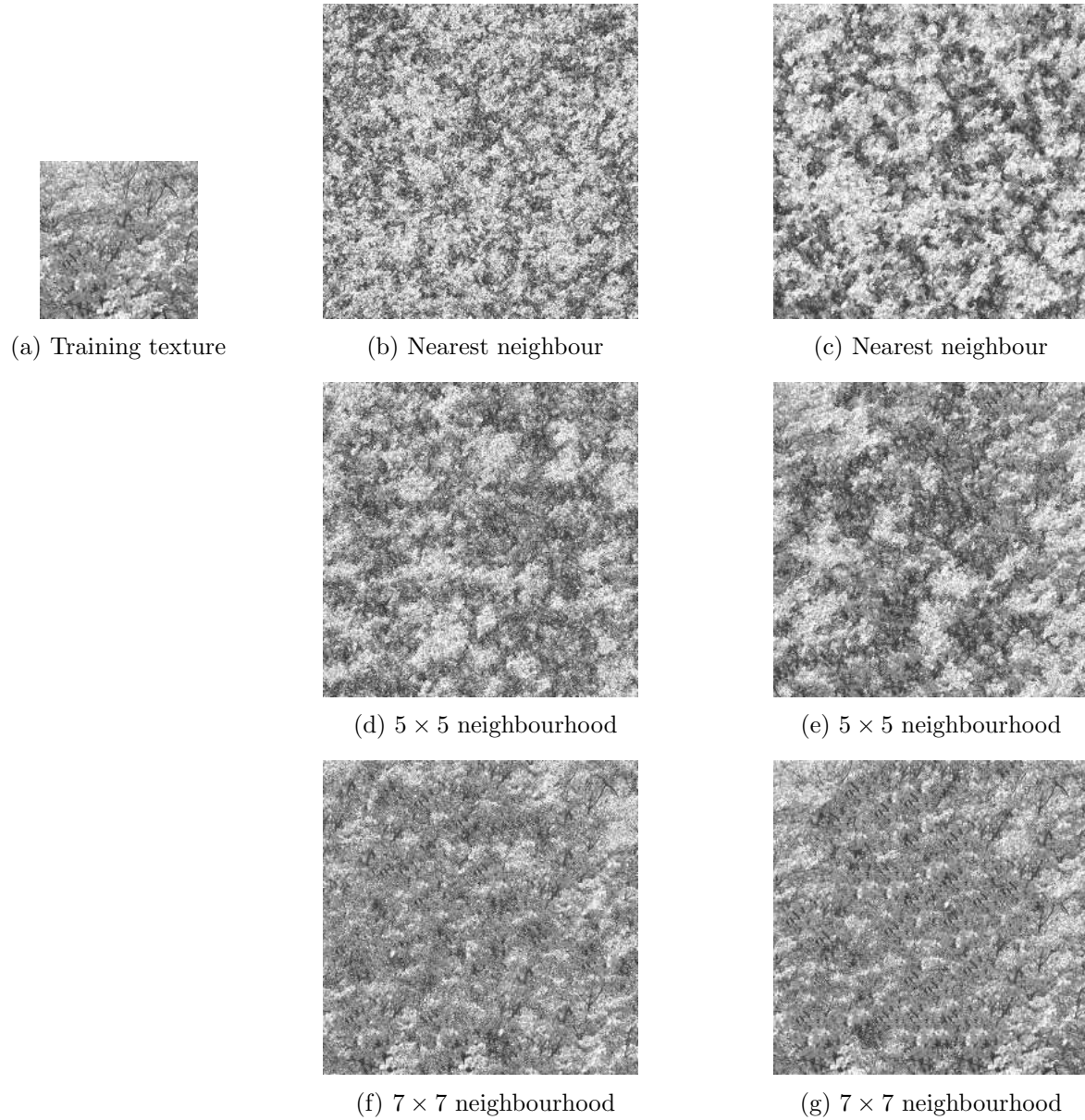


Figure B.119: VisTex texture Flowers.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

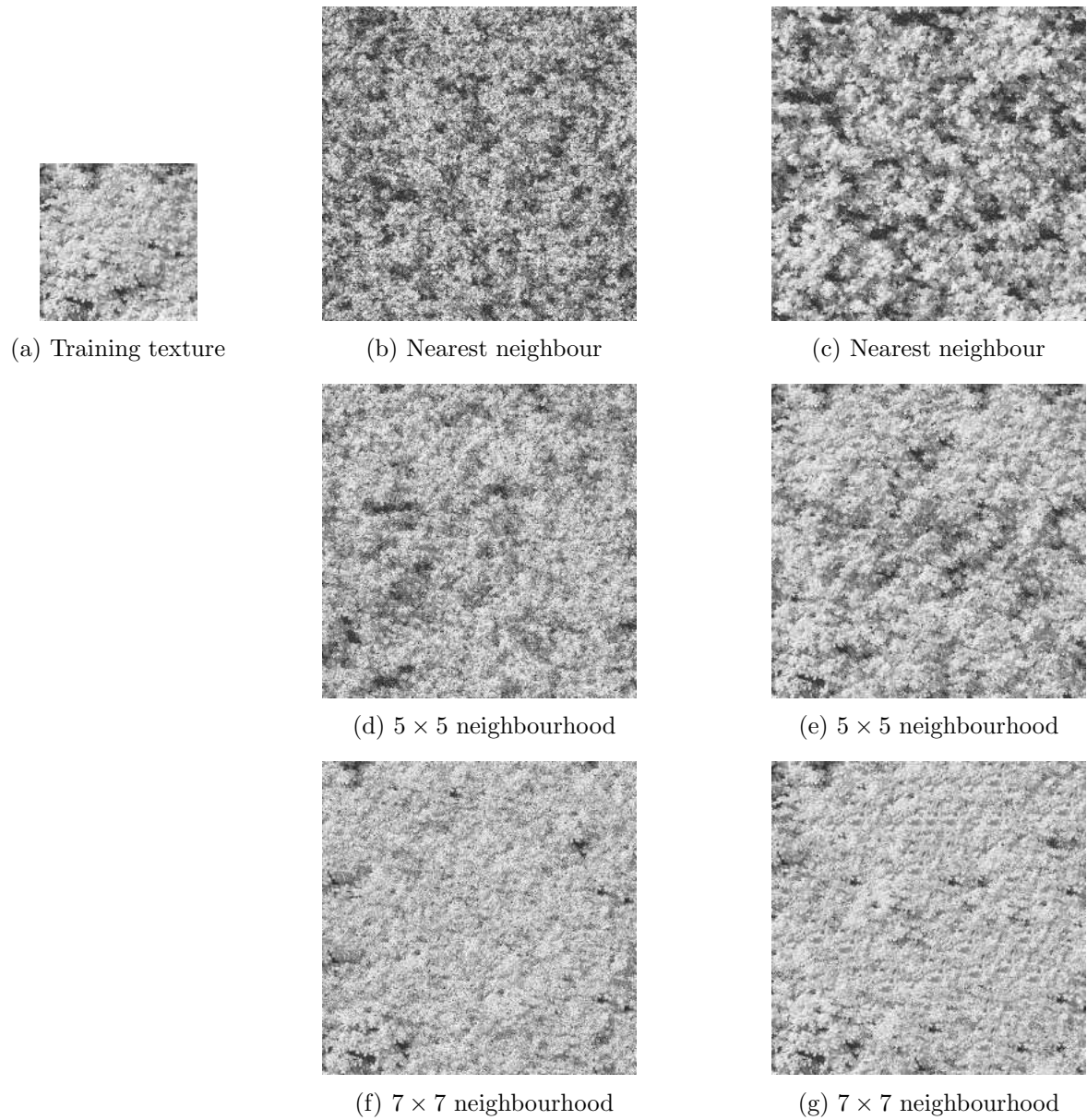


Figure B.120: VisTex texture Flowers.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

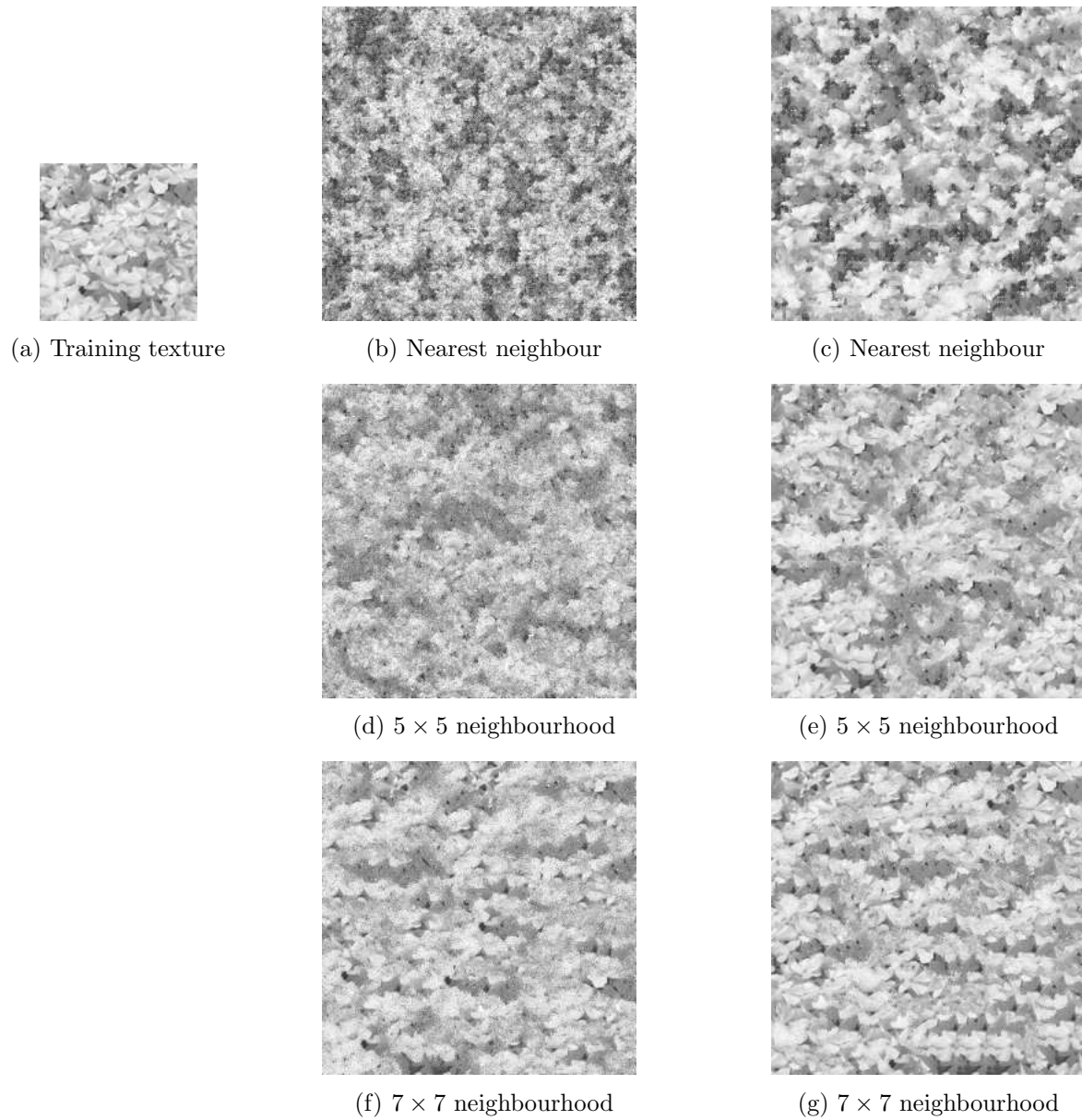


Figure B.121: VisTex texture Flowers.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

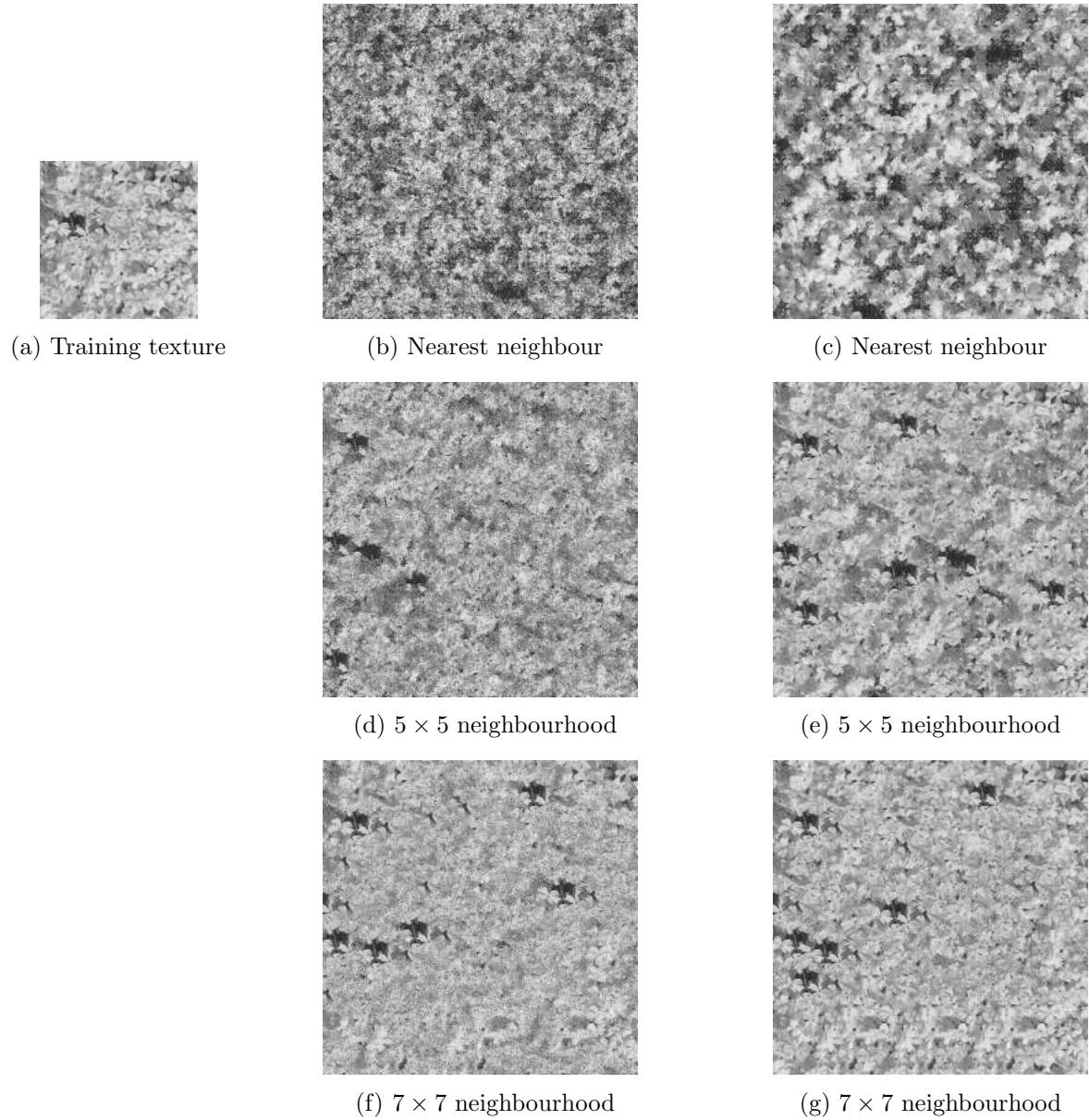


Figure B.122: VisTex texture Flowers.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

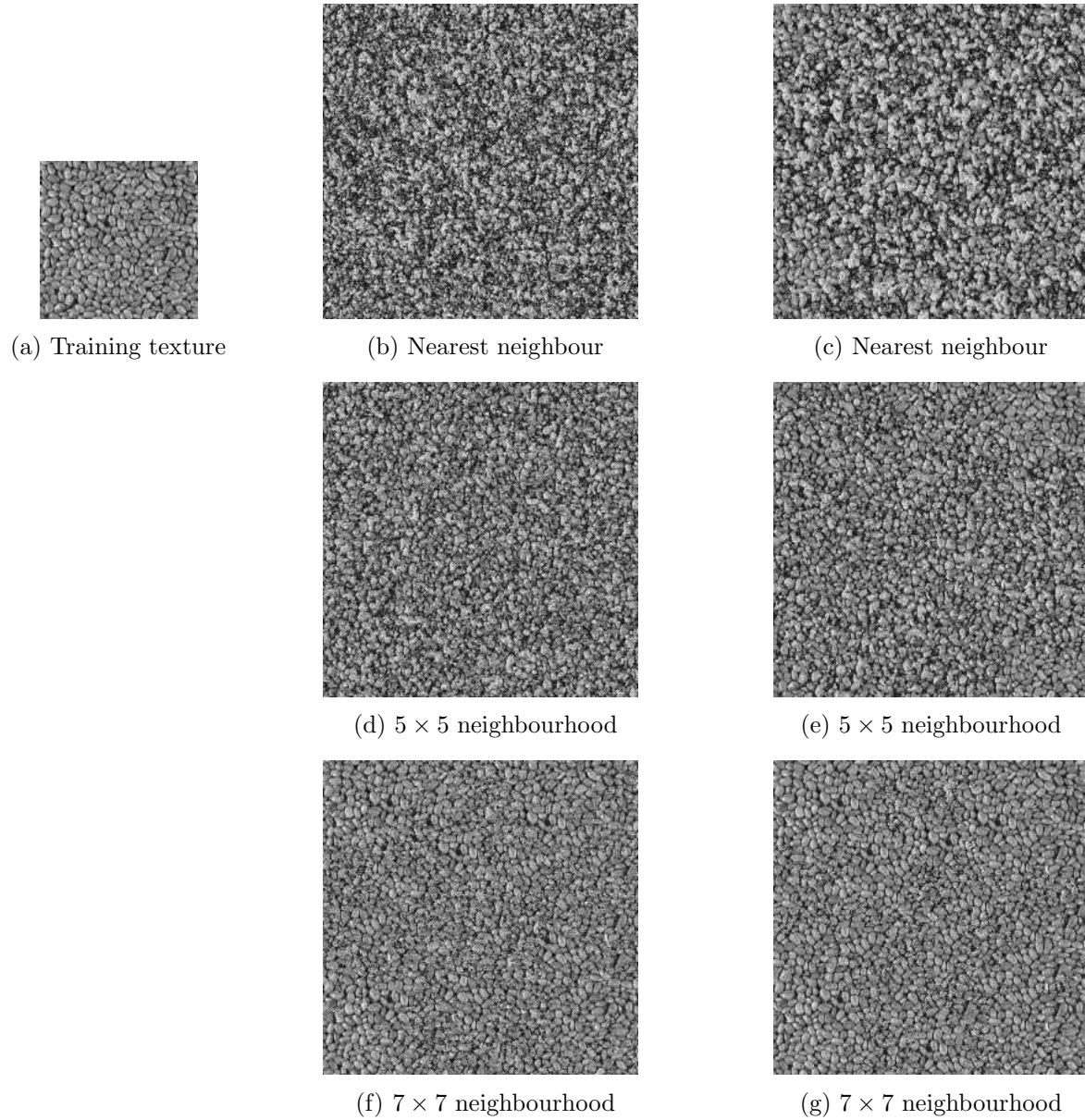


Figure B.123: VisTex texture Food.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

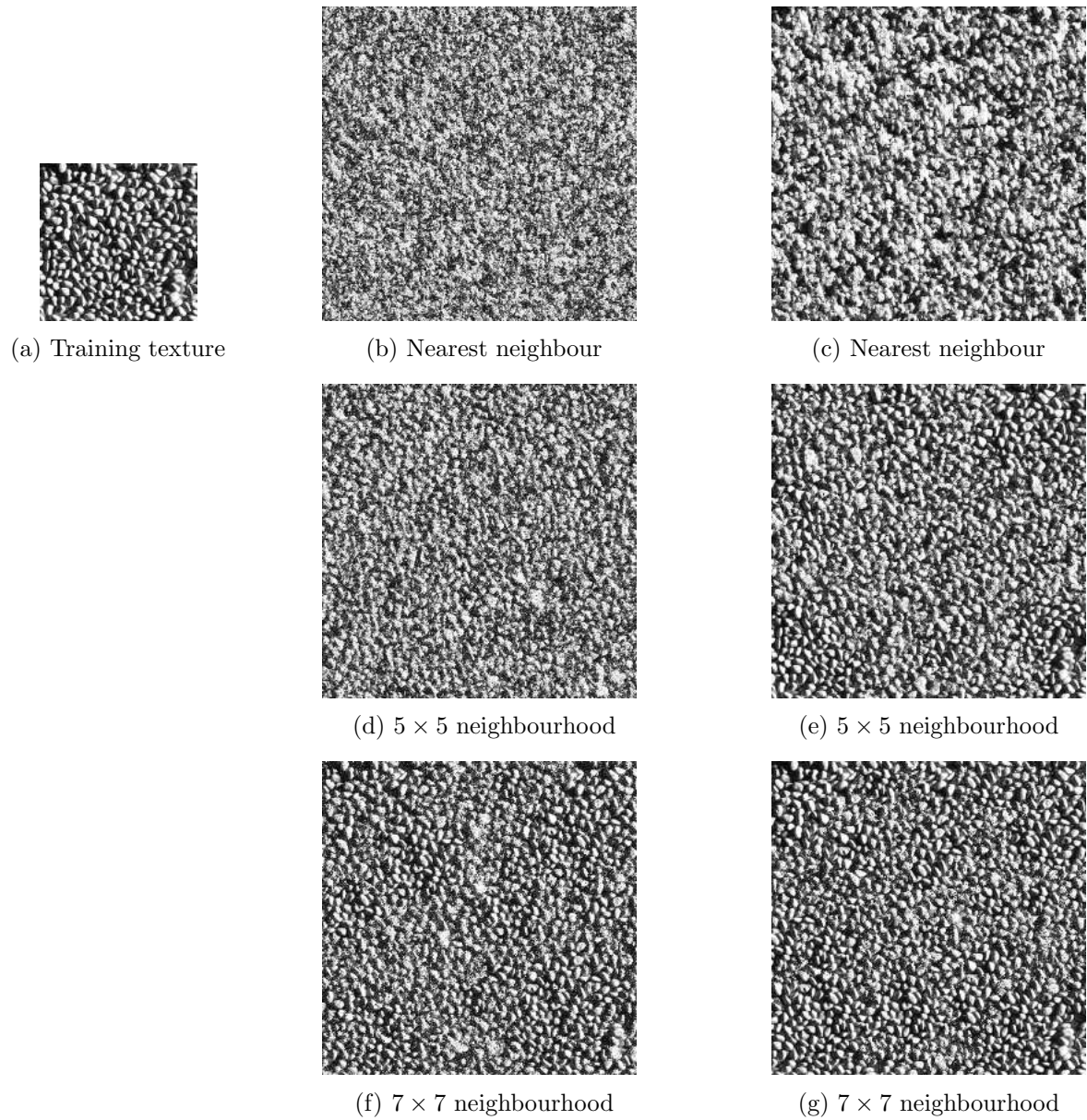


Figure B.124: VisTex texture Food.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

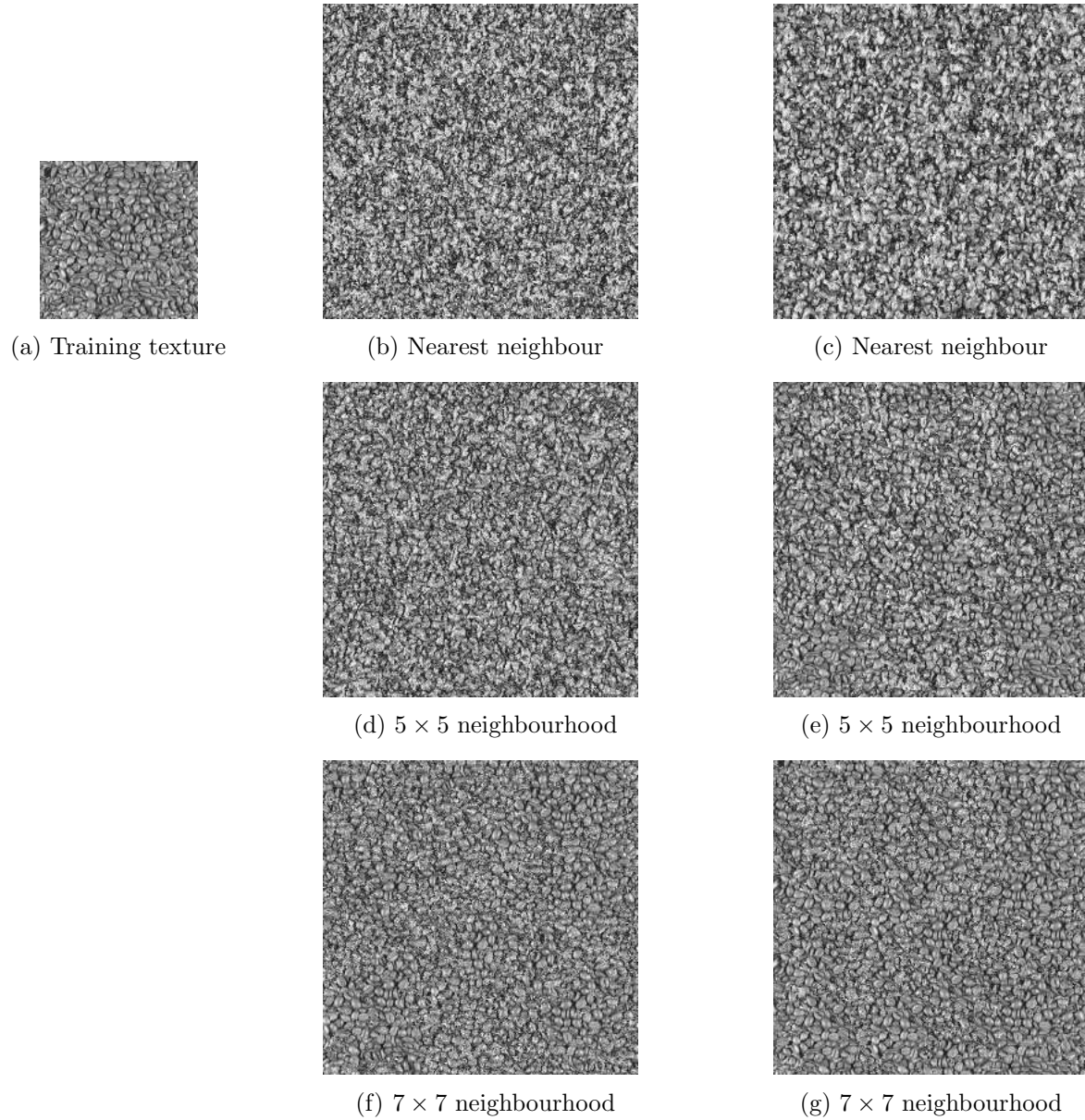


Figure B.125: VisTex texture Food.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

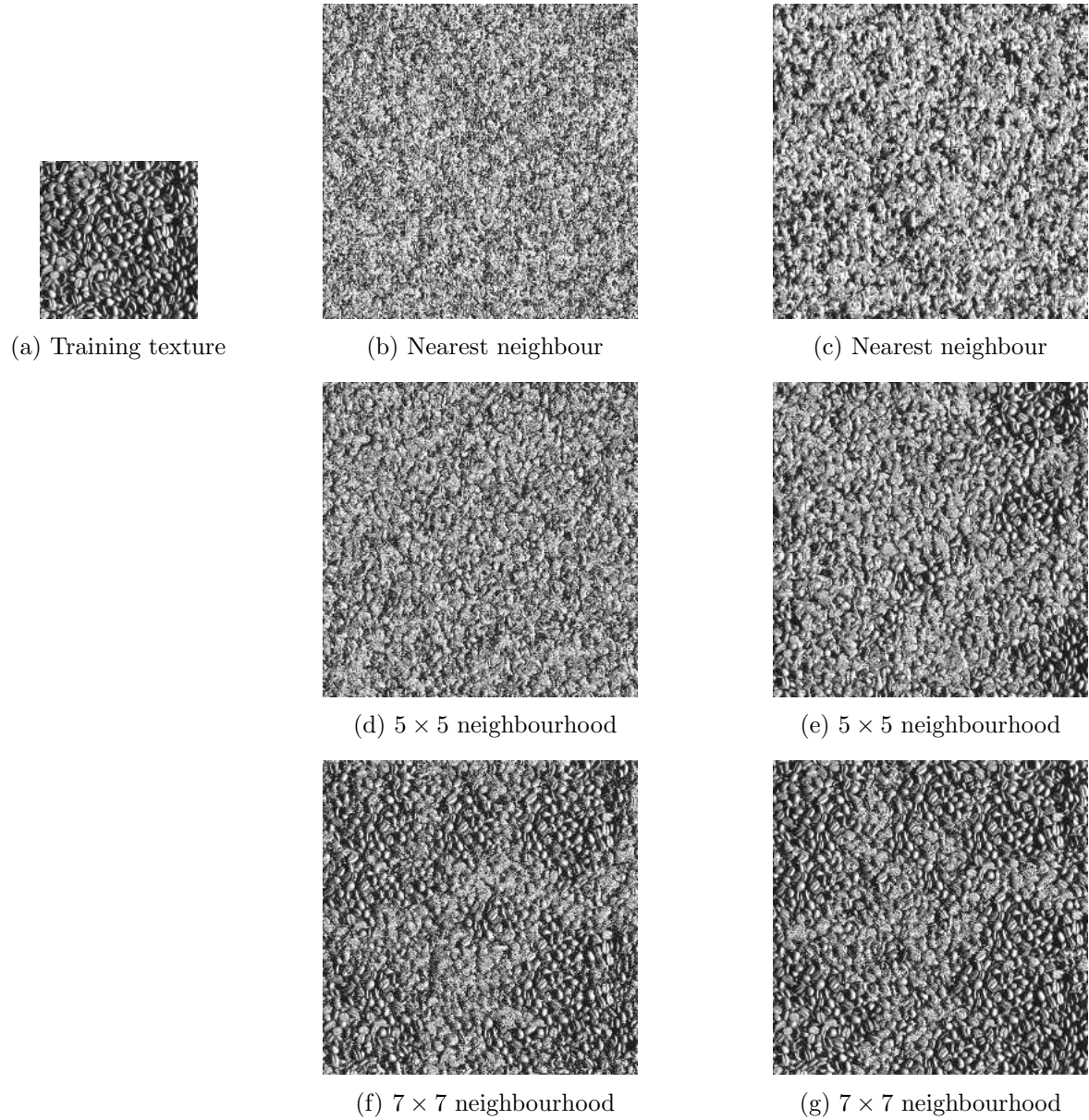


Figure B.126: VisTex texture Food.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

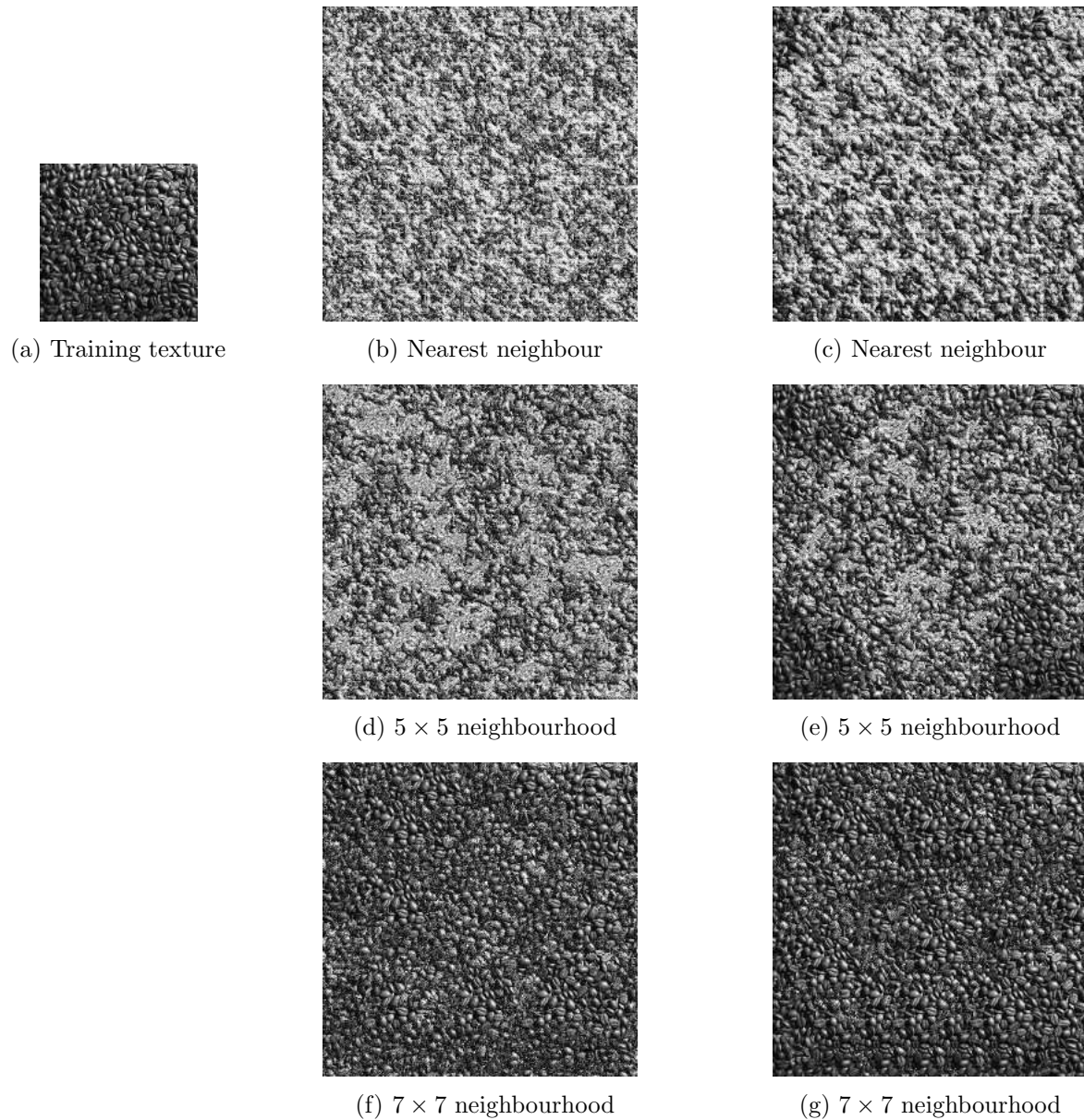


Figure B.127: VisTex texture Food.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

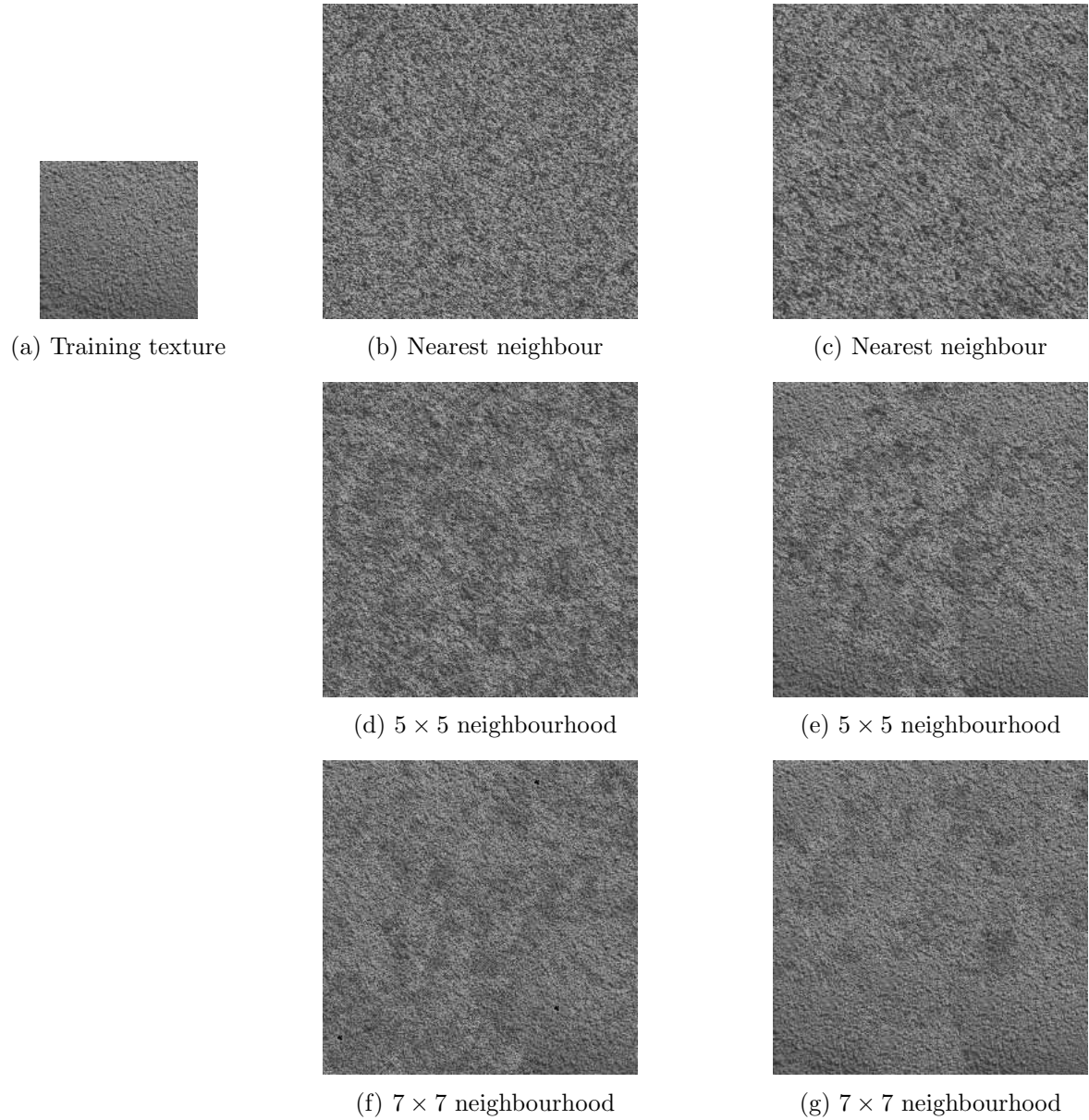


Figure B.128: VisTex texture Food.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

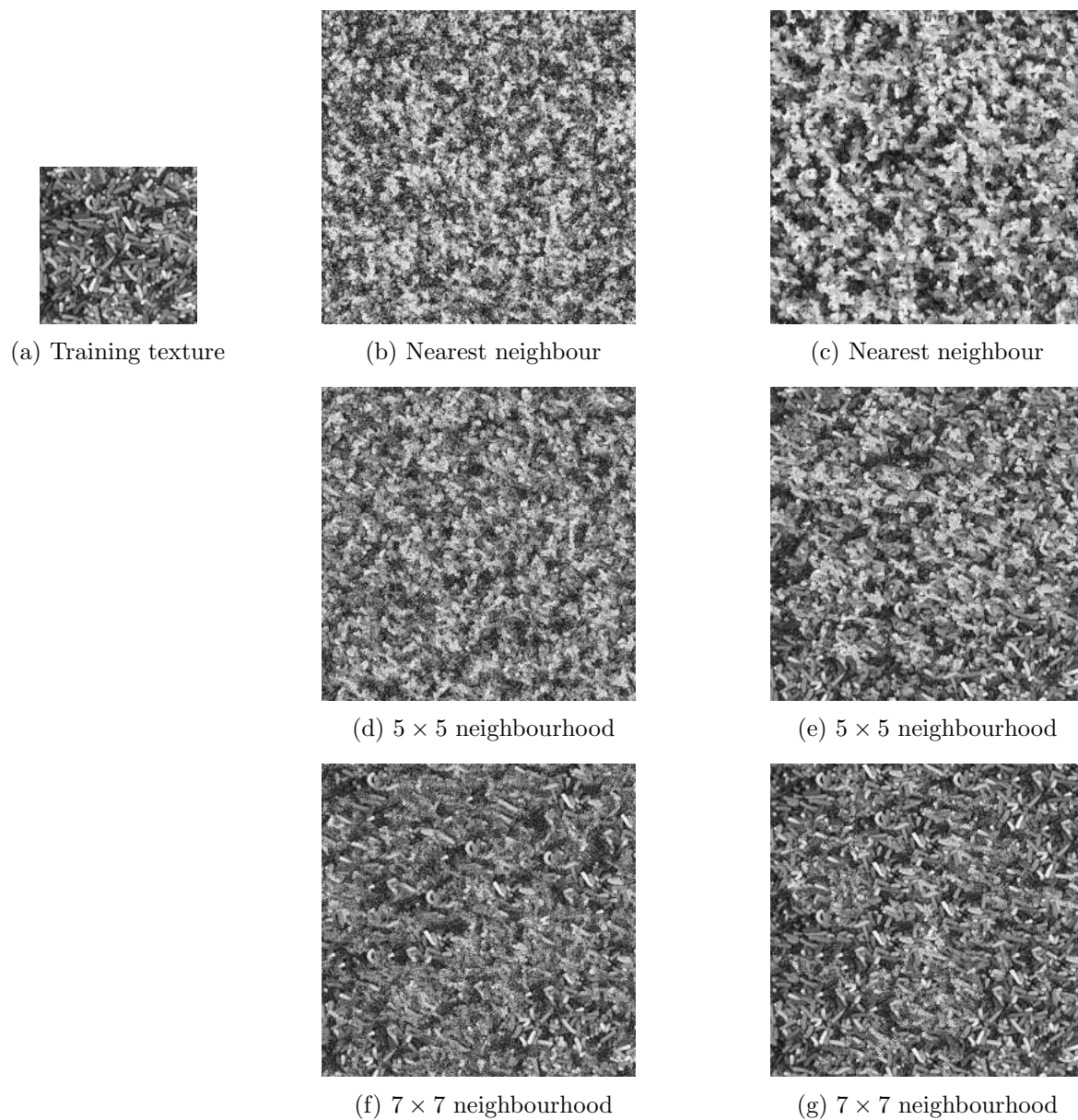


Figure B.129: VisTex texture Food.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

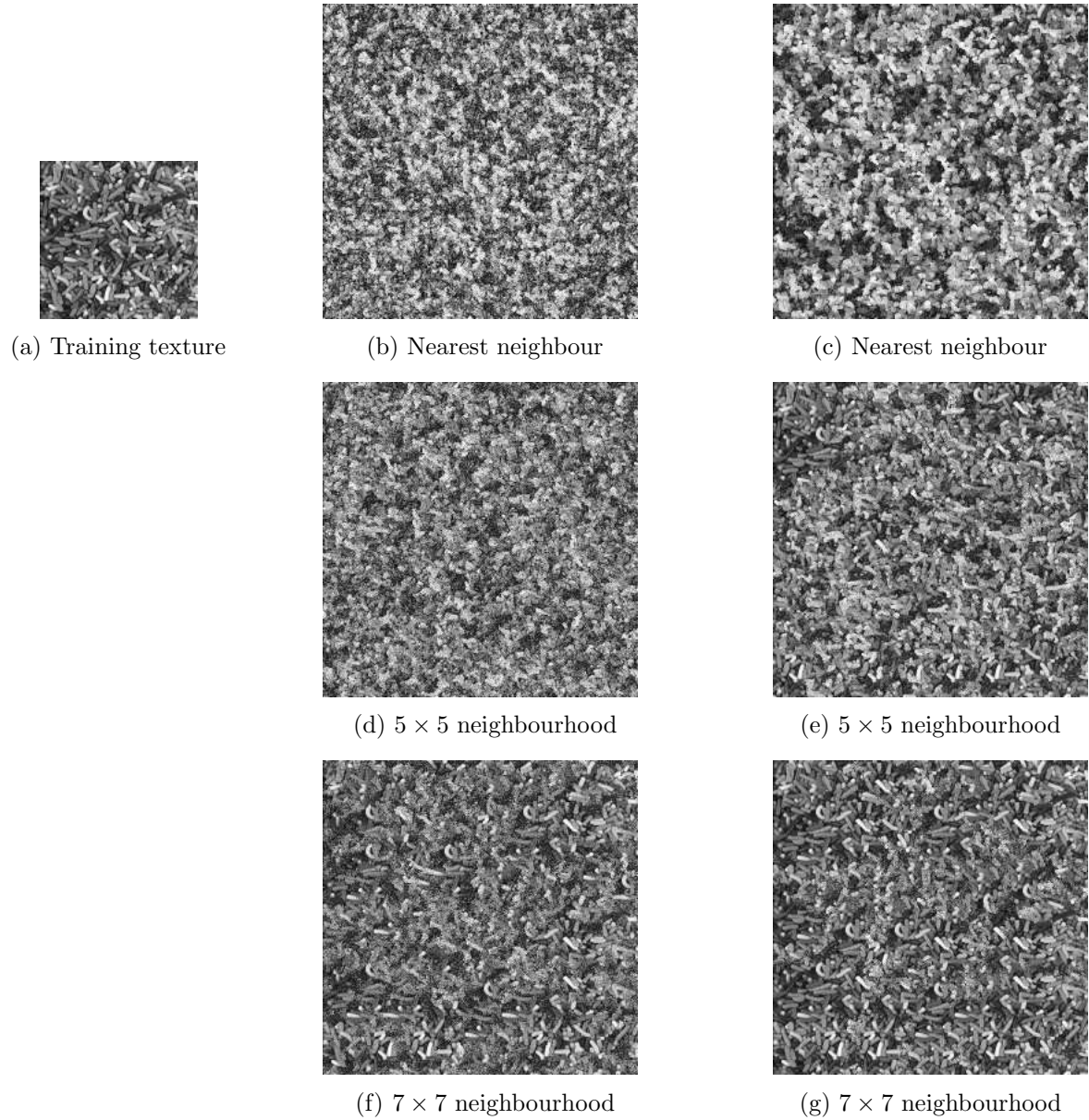


Figure B.130: VisTex texture Food.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

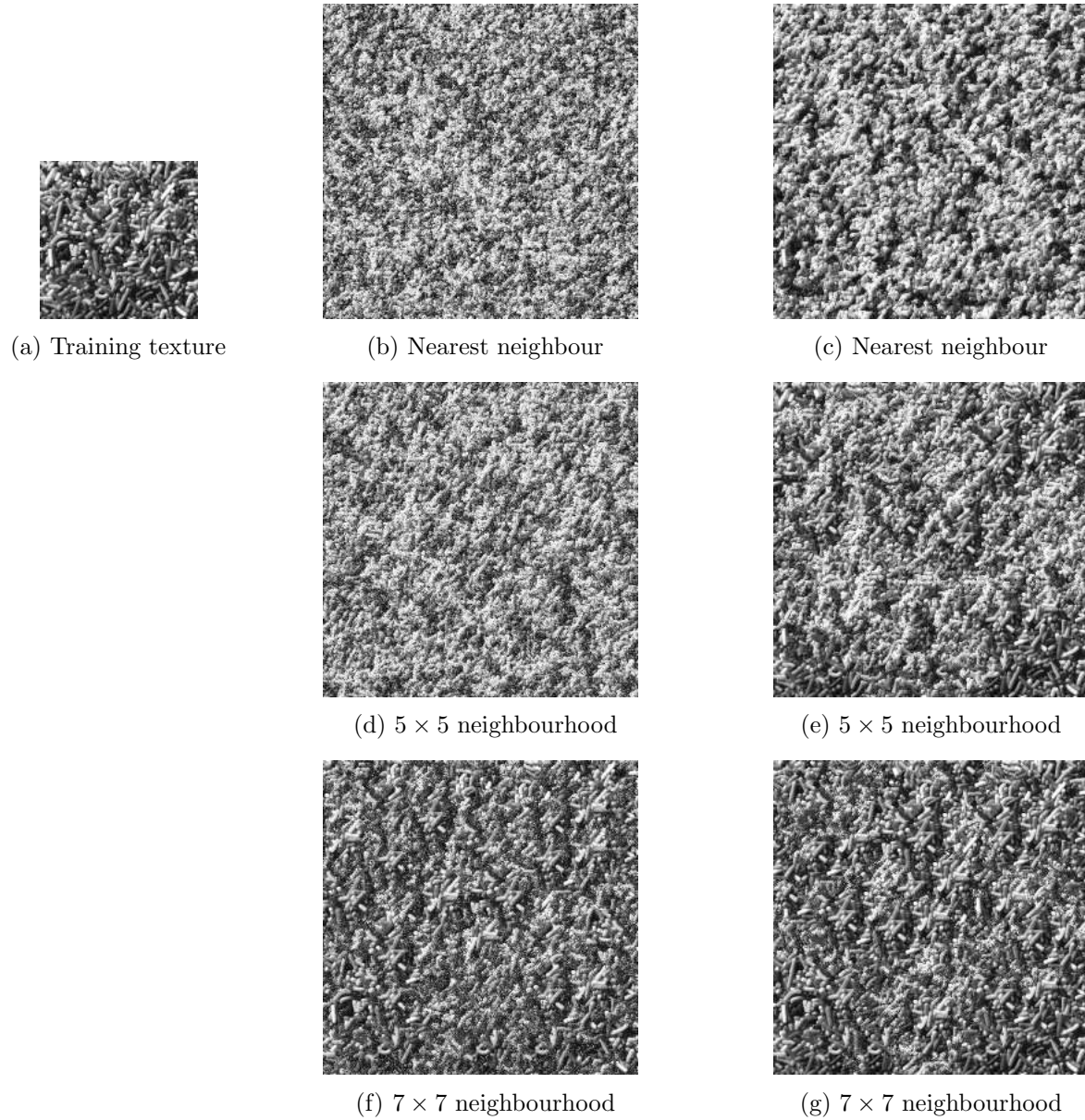


Figure B.131: VisTex texture Food.0008: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

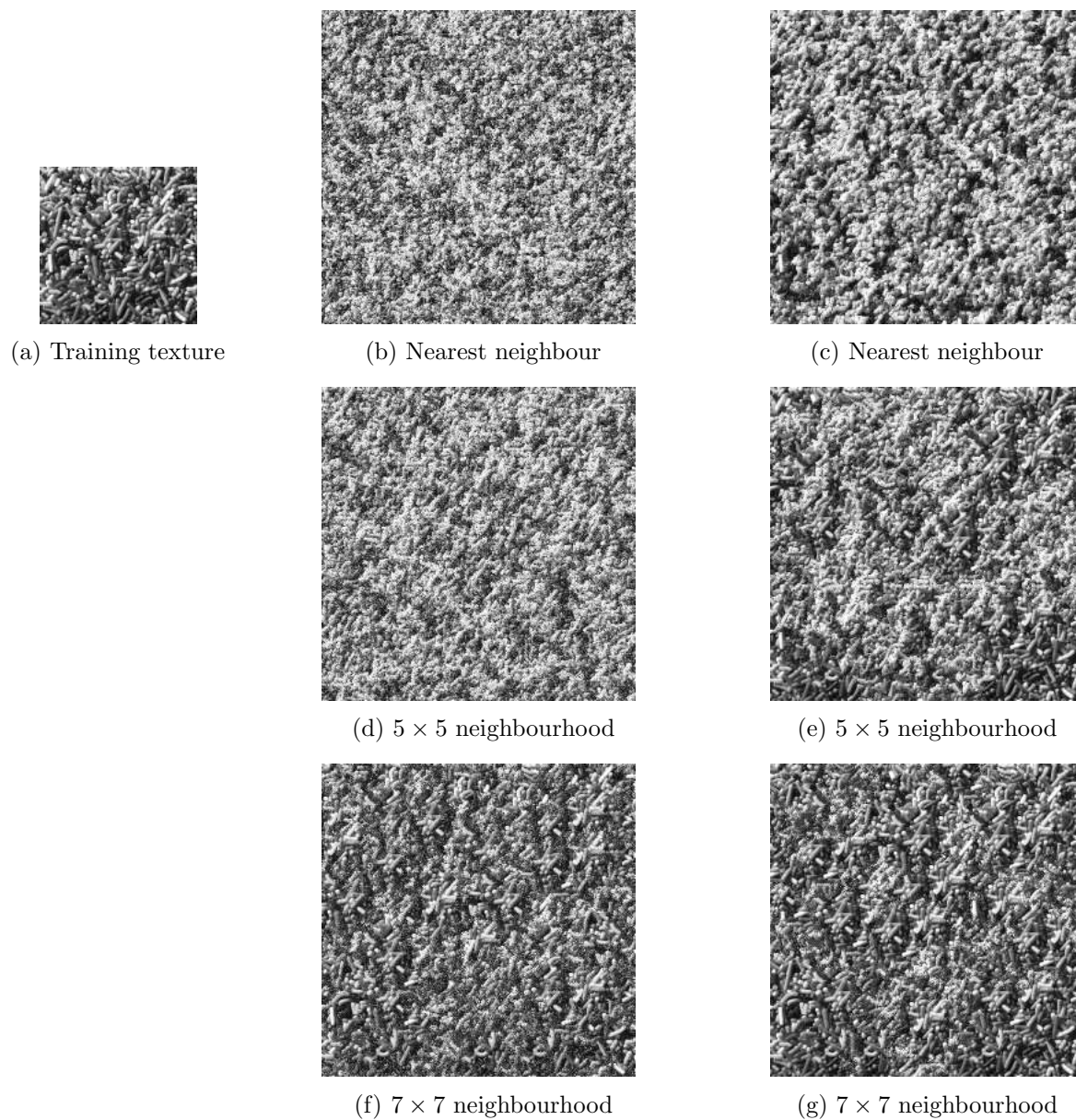


Figure B.132: VisTex texture Food.0009: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

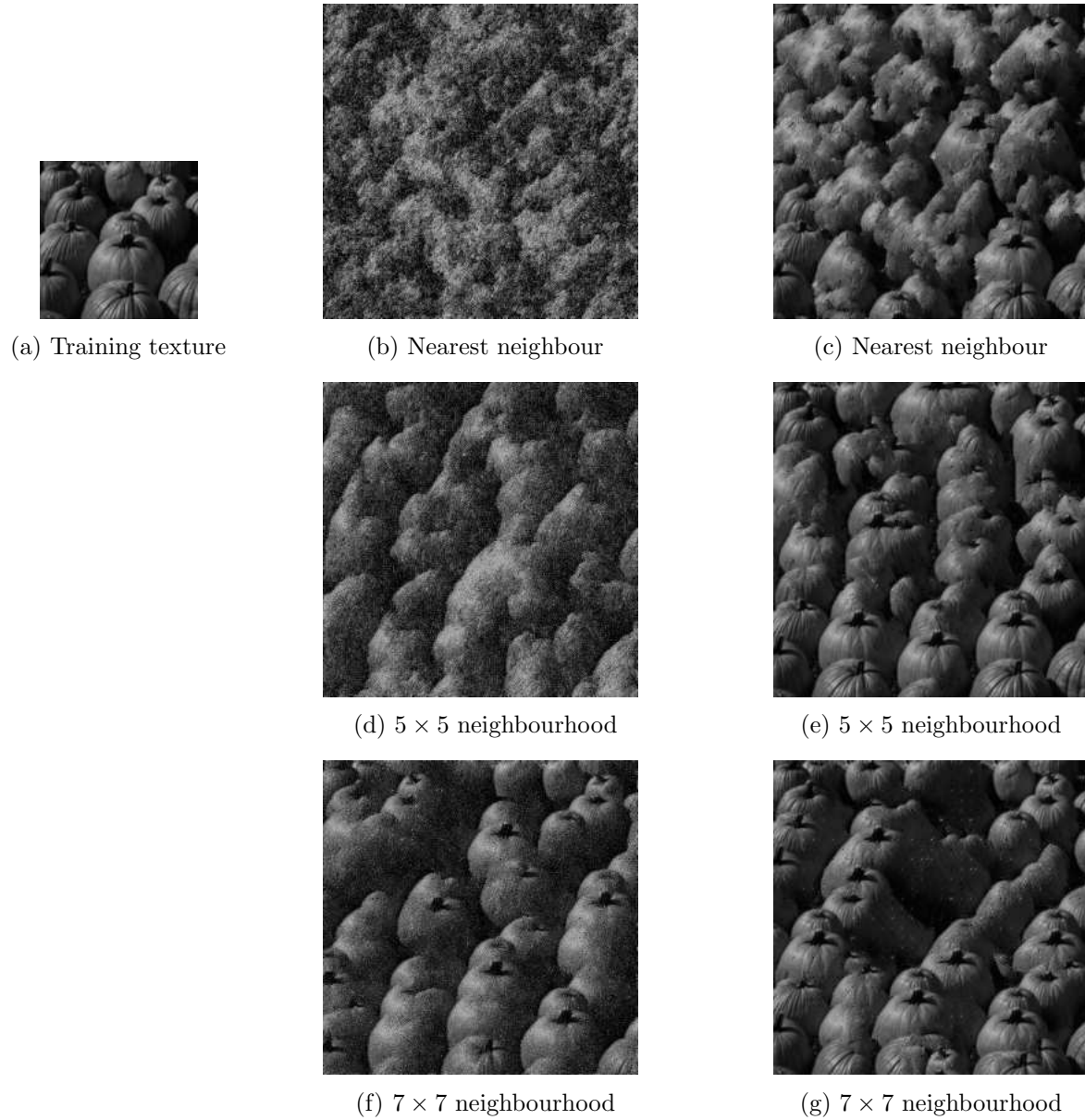


Figure B.133: VisTex texture Food.0010: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

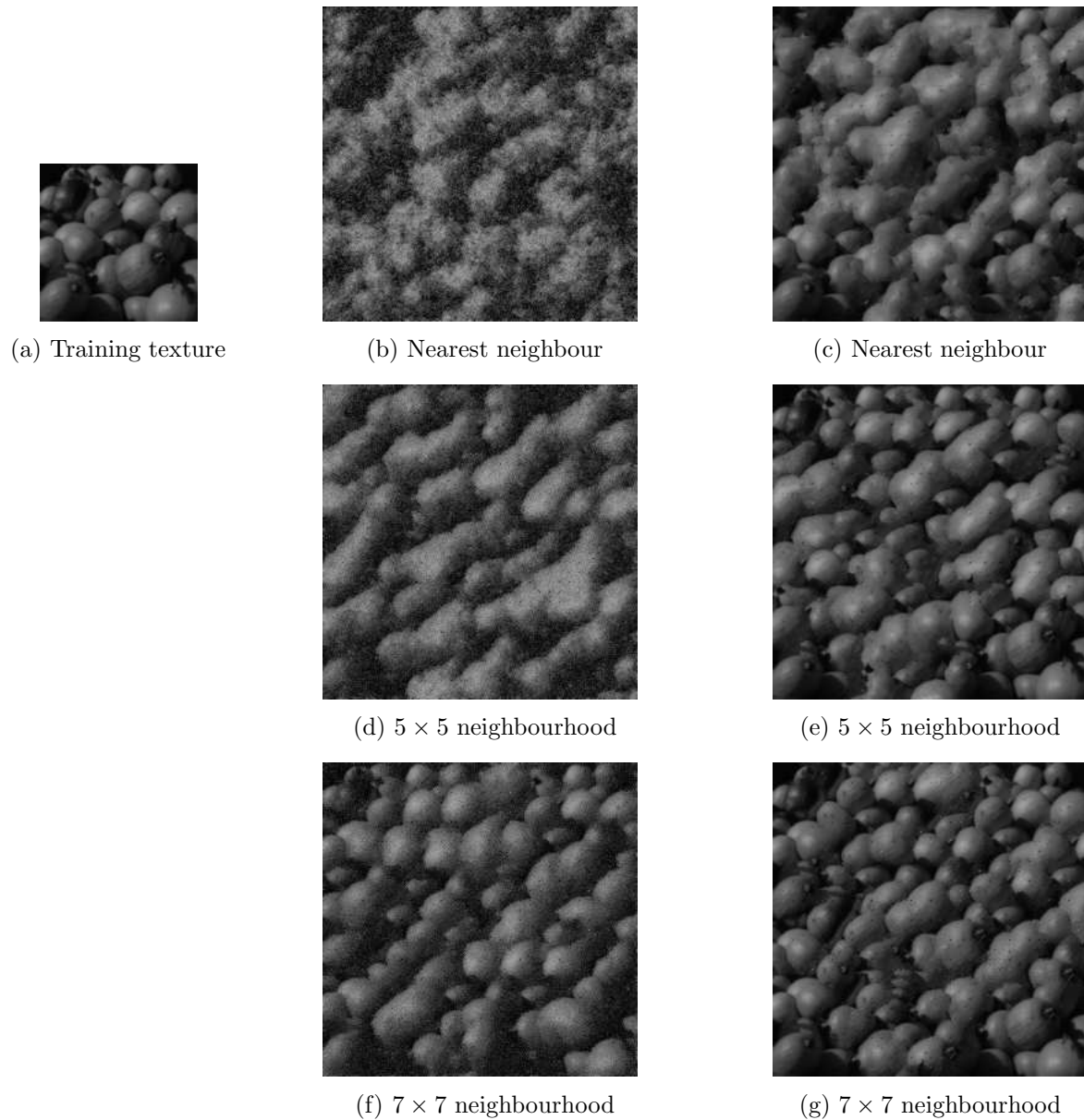


Figure B.134: VisTex texture Food.0011: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

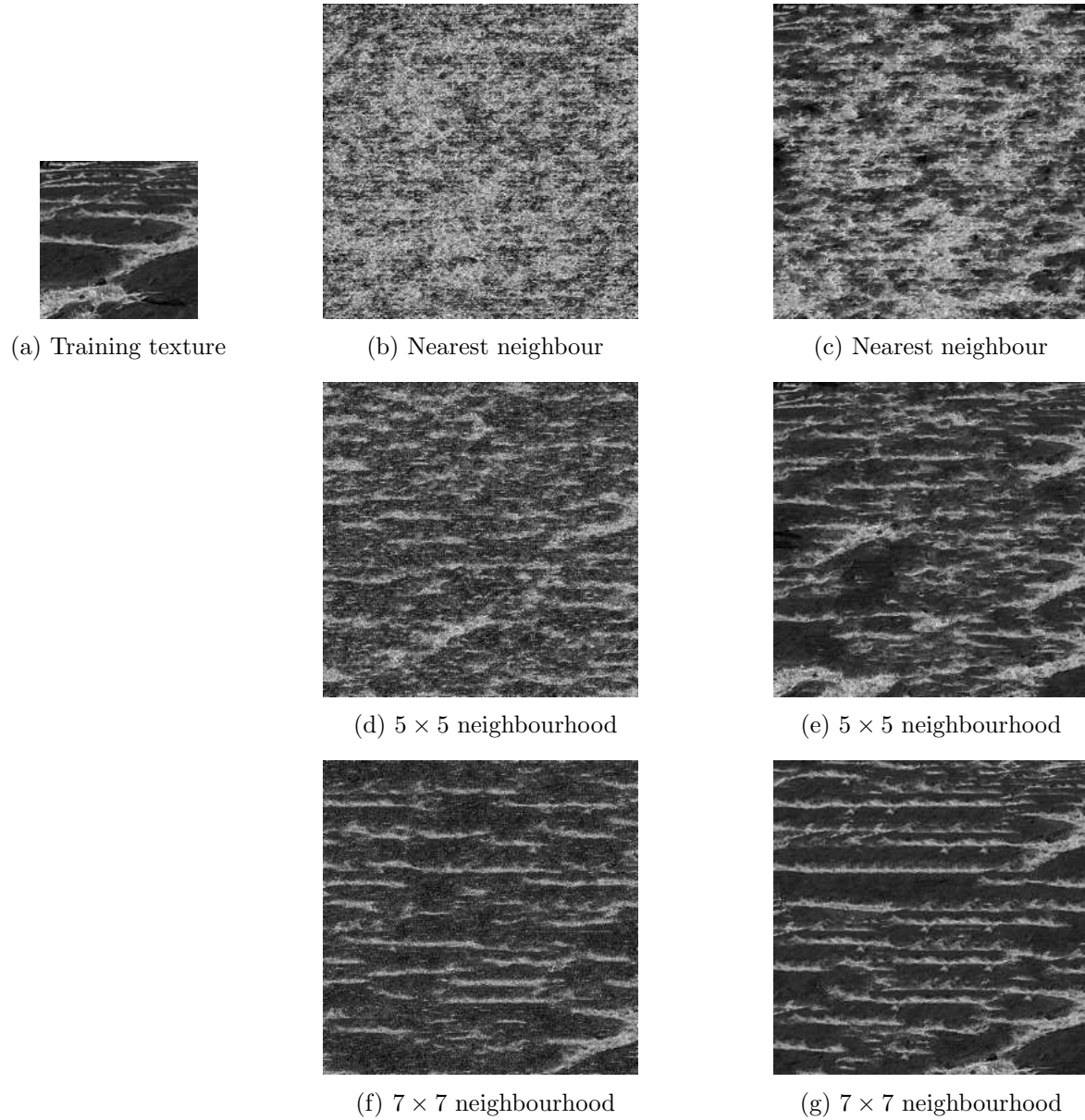


Figure B.135: VisTex texture Grass.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

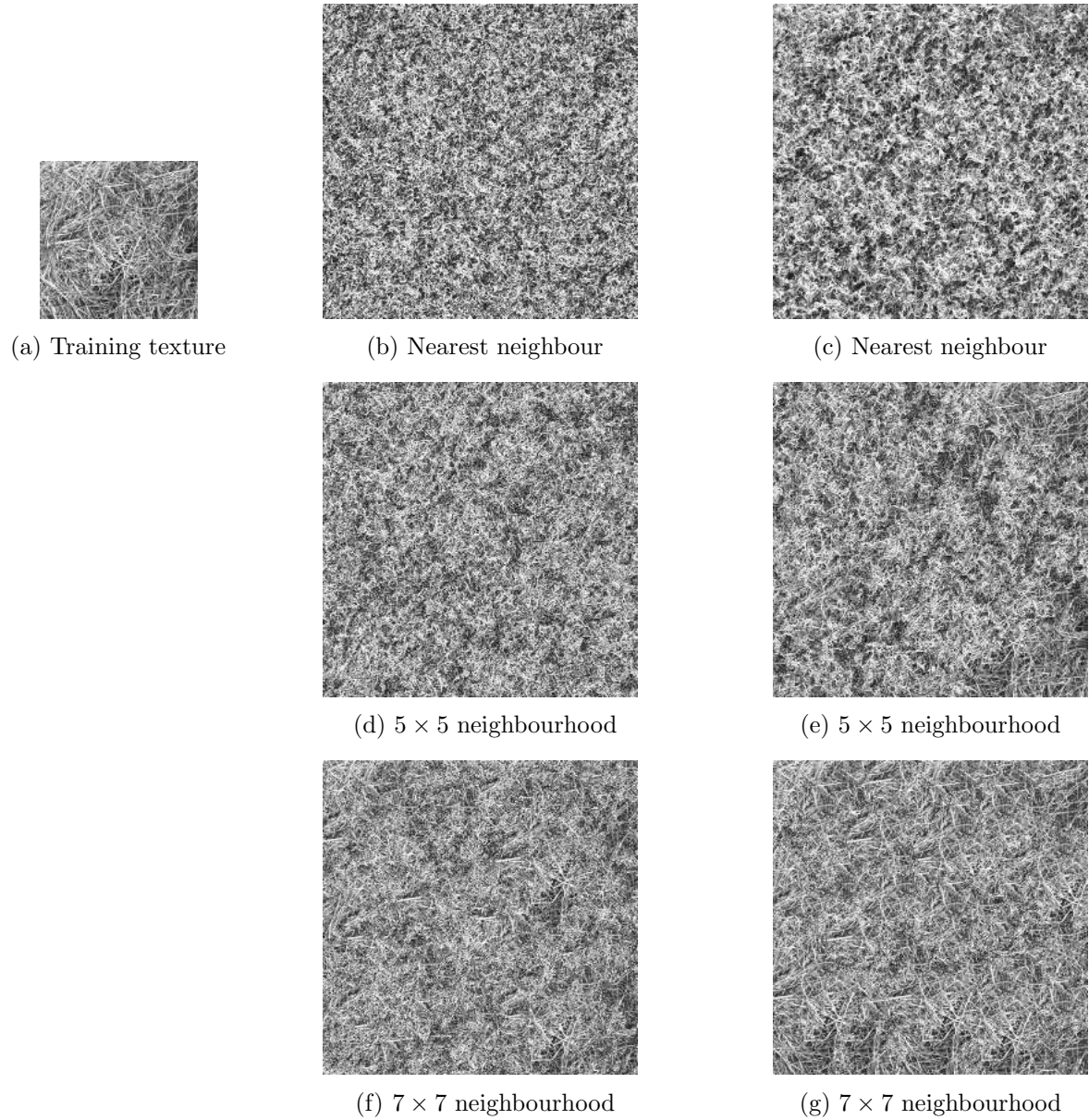


Figure B.136: VisTex texture Grass.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

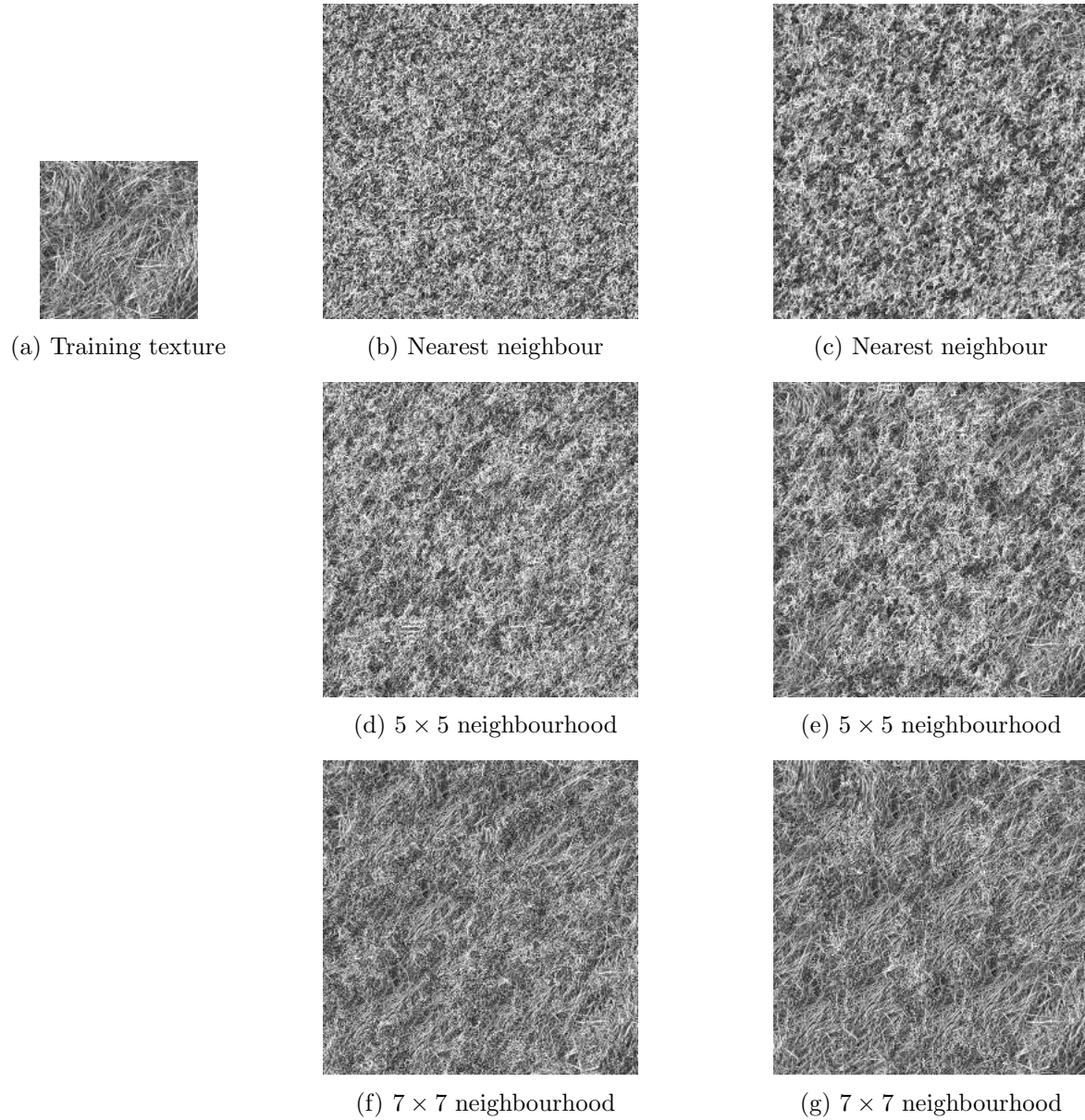


Figure B.137: VisTex texture Grass.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

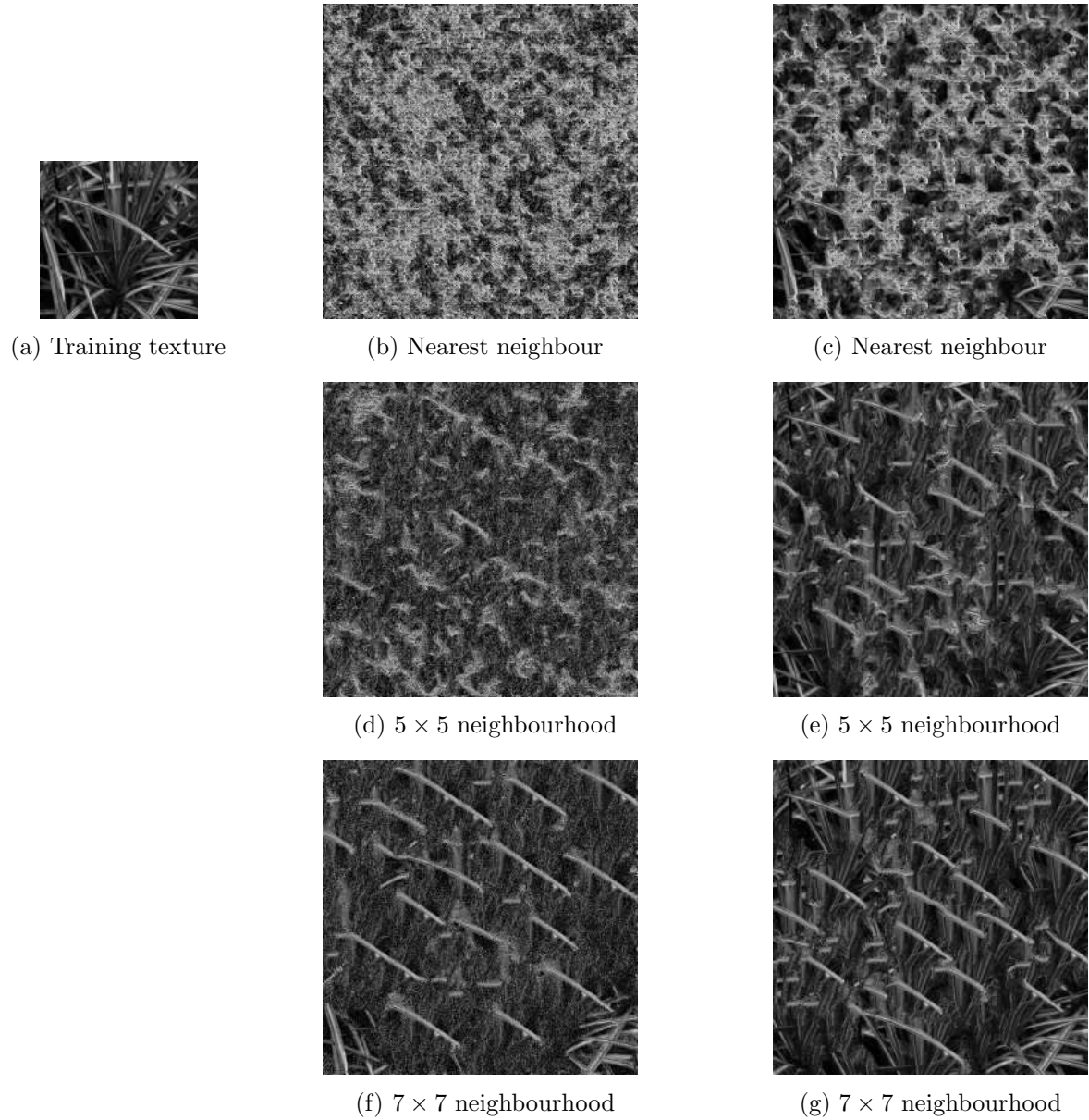


Figure B.138: VisTex texture Leaves.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

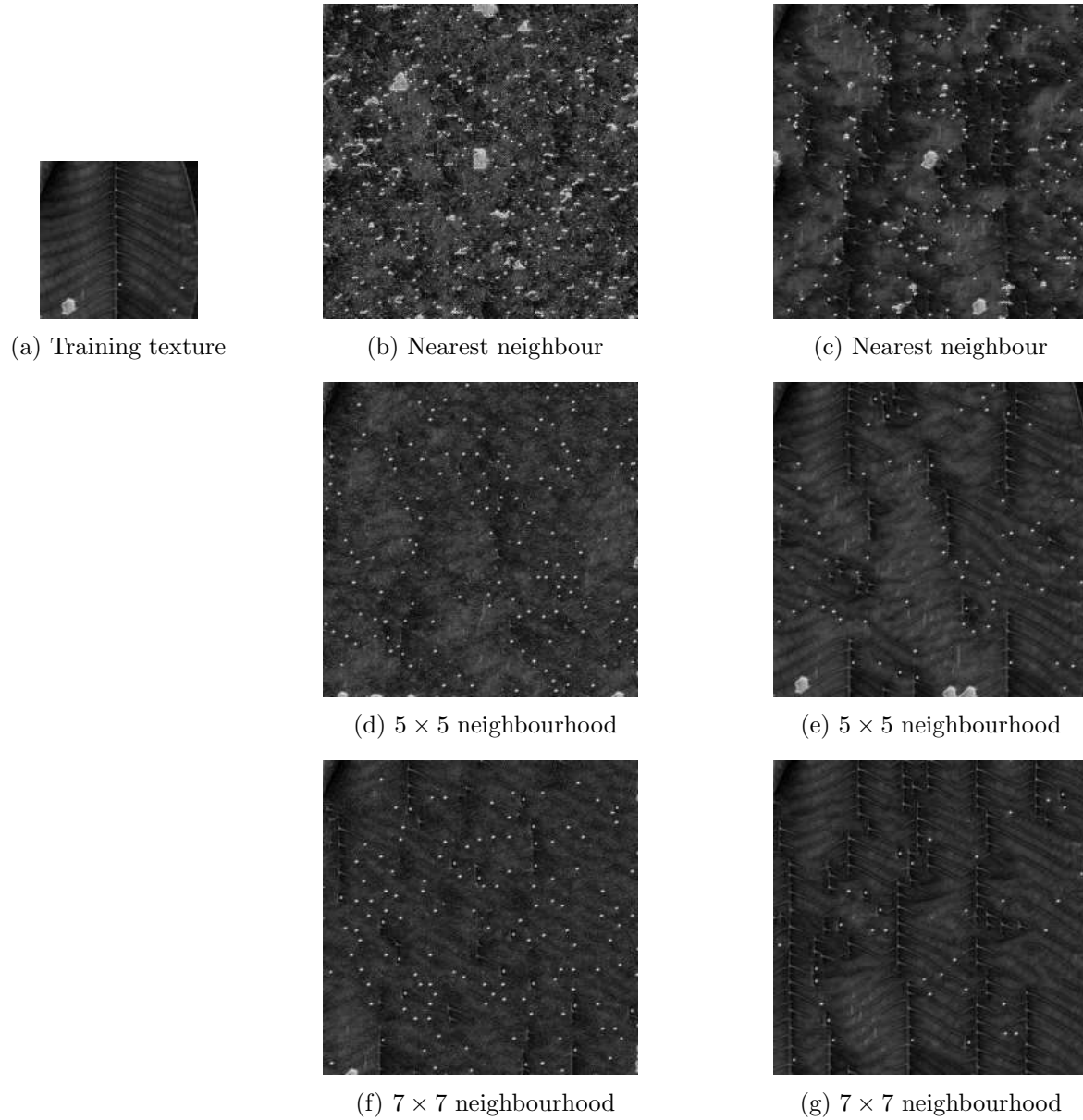


Figure B.139: VisTex texture Leaves.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

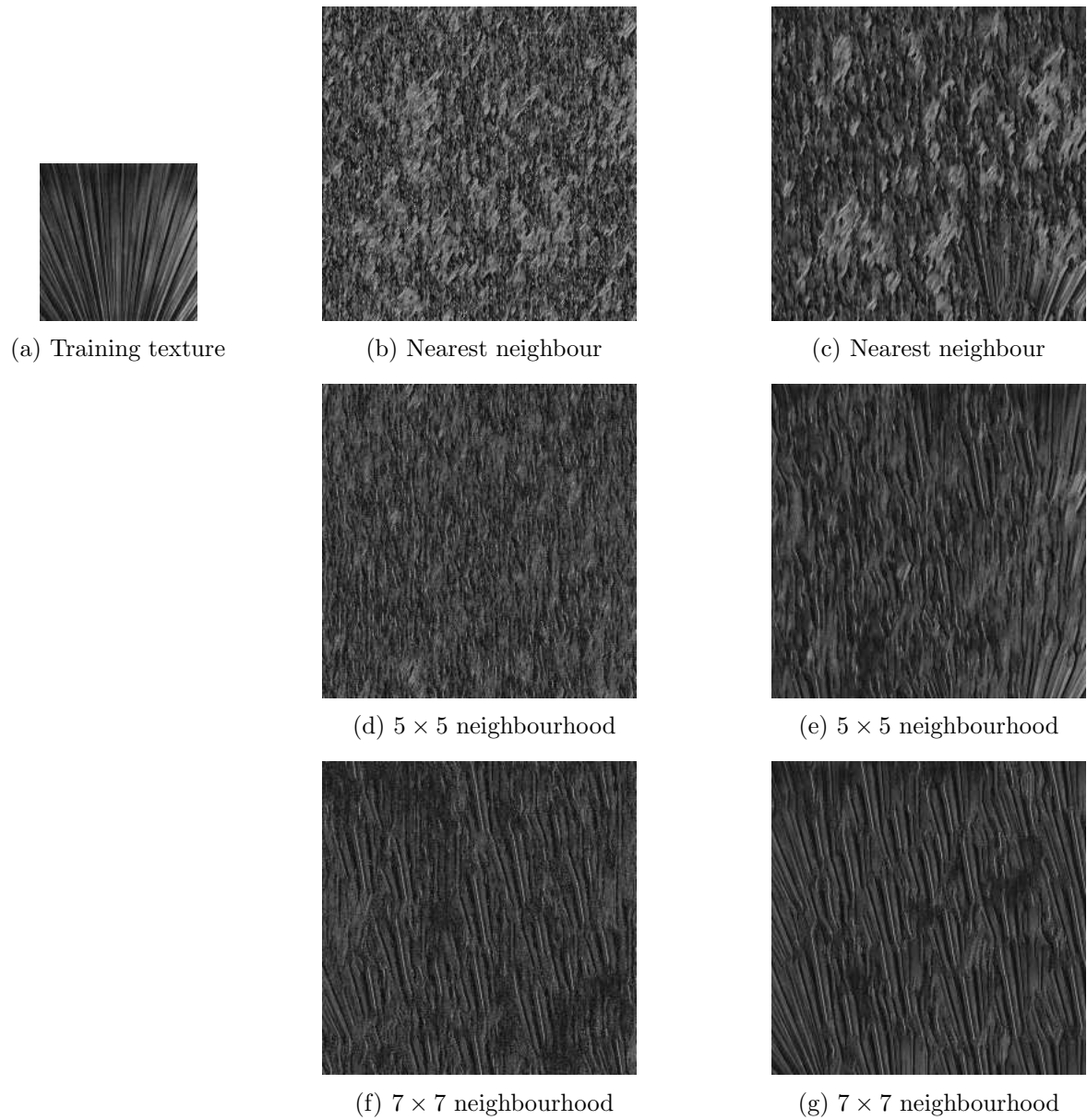


Figure B.140: VisTex texture Leaves.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

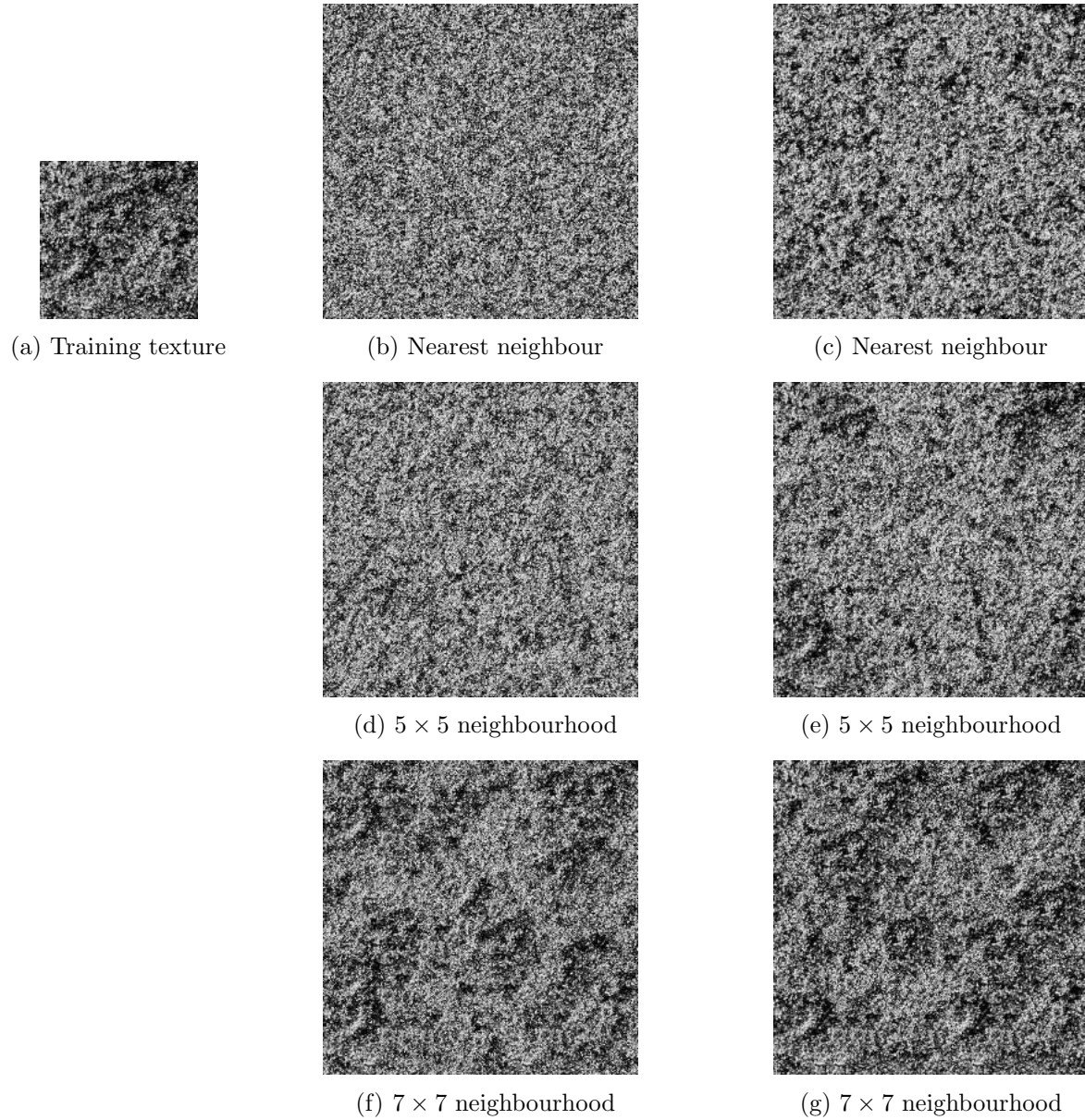


Figure B.141: VisTex texture Leaves.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

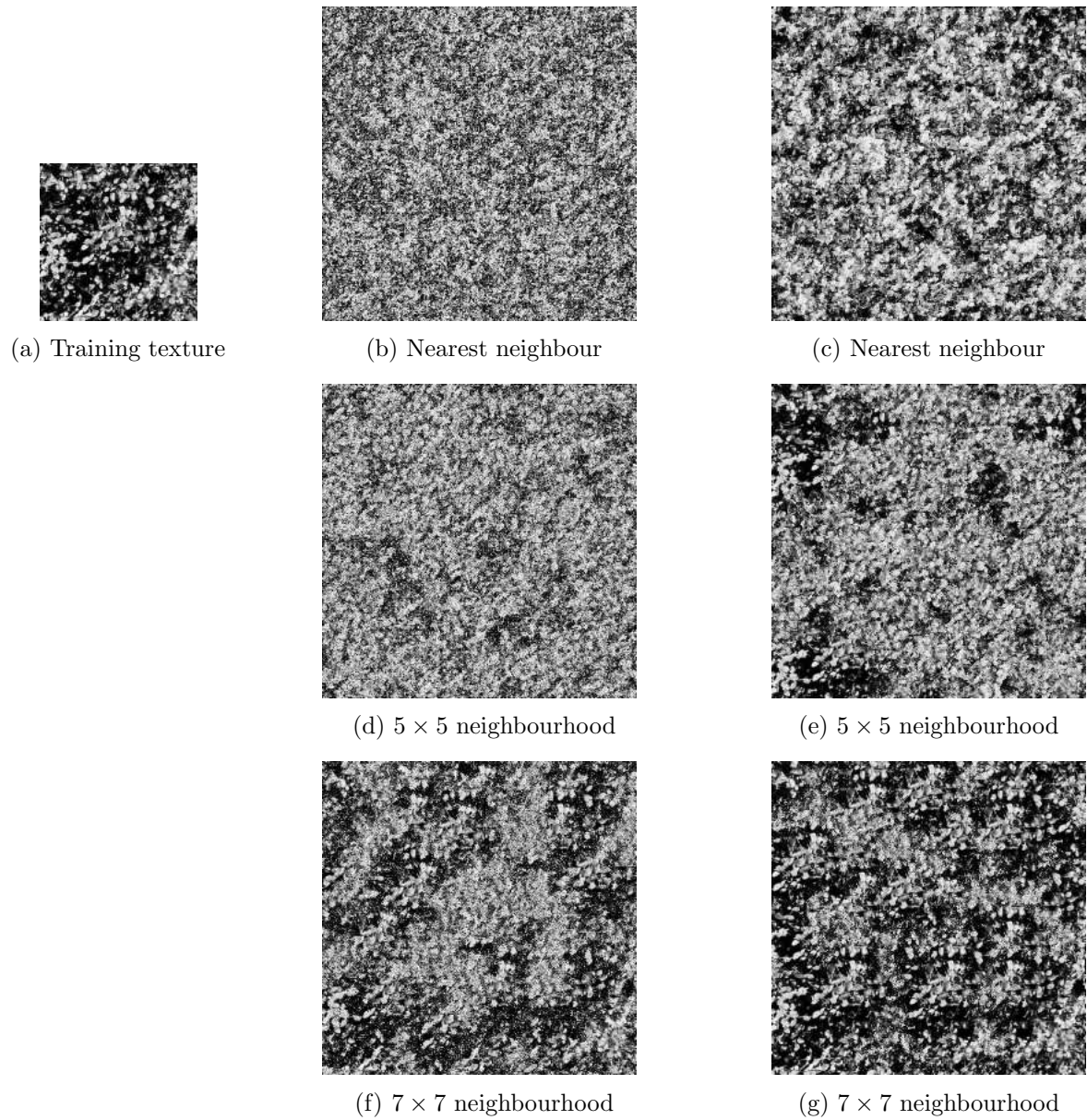


Figure B.142: VisTex texture Leaves.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

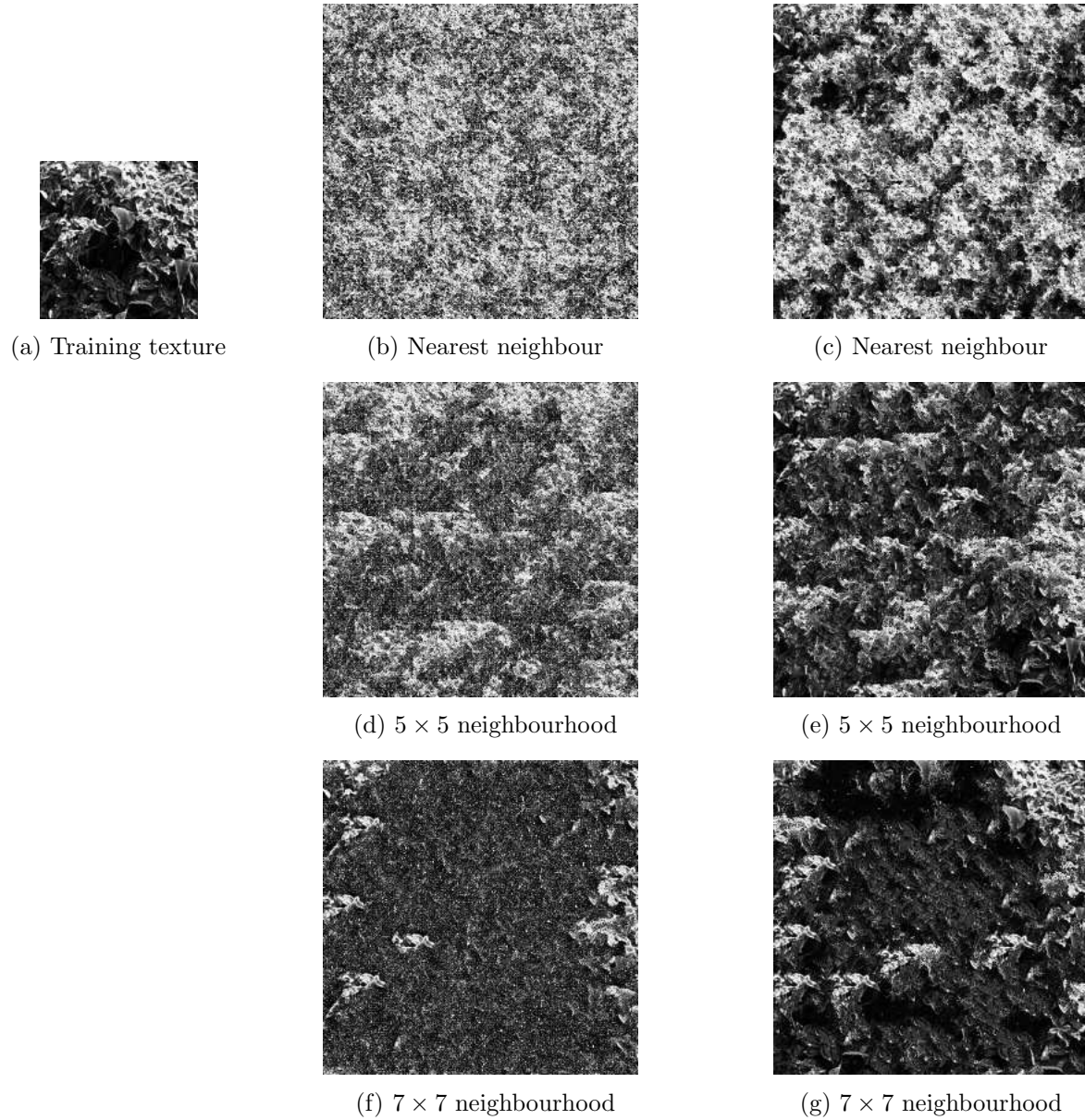


Figure B.143: VisTex texture Leaves.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

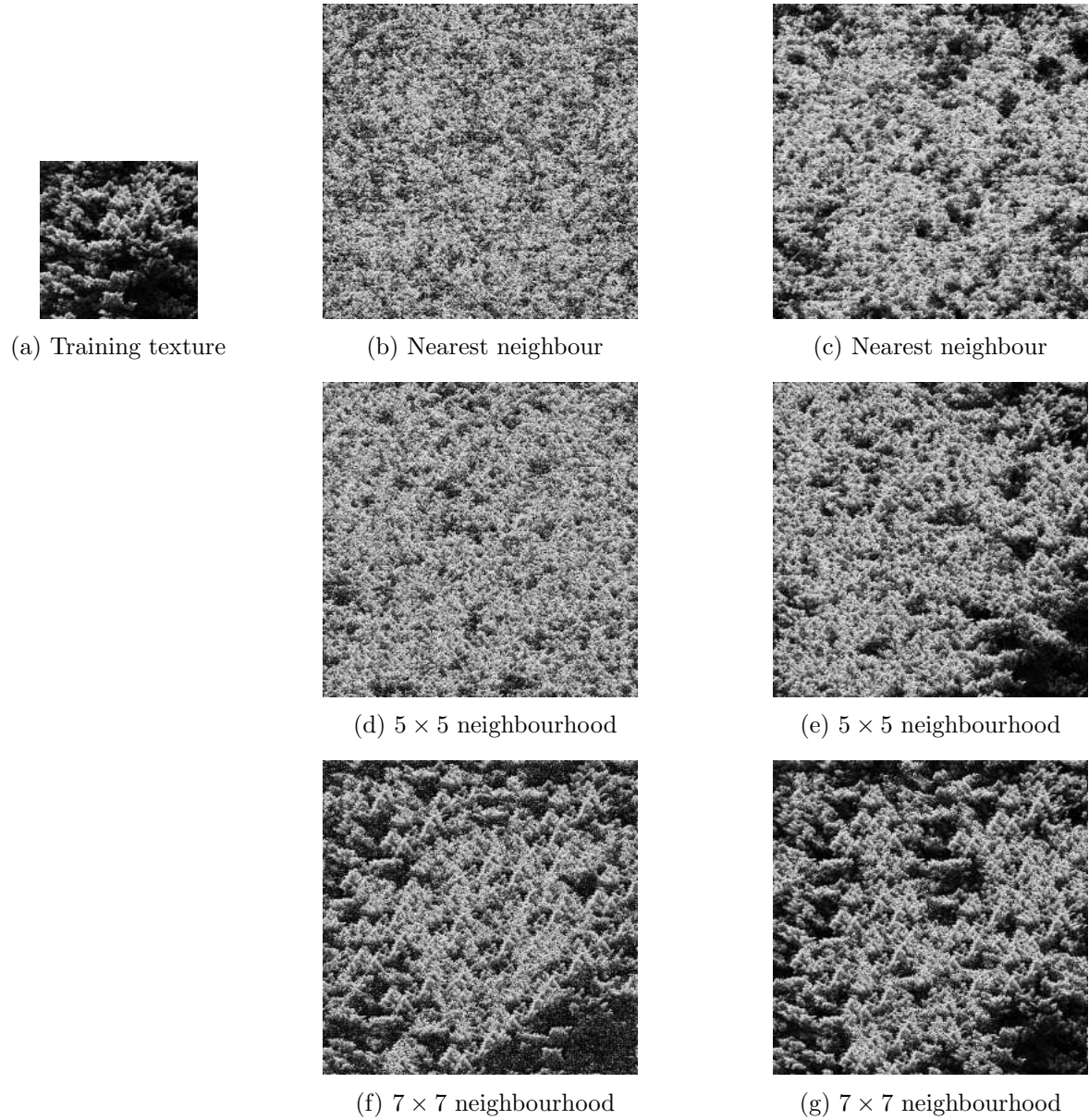


Figure B.144: VisTex texture Leaves.0006: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

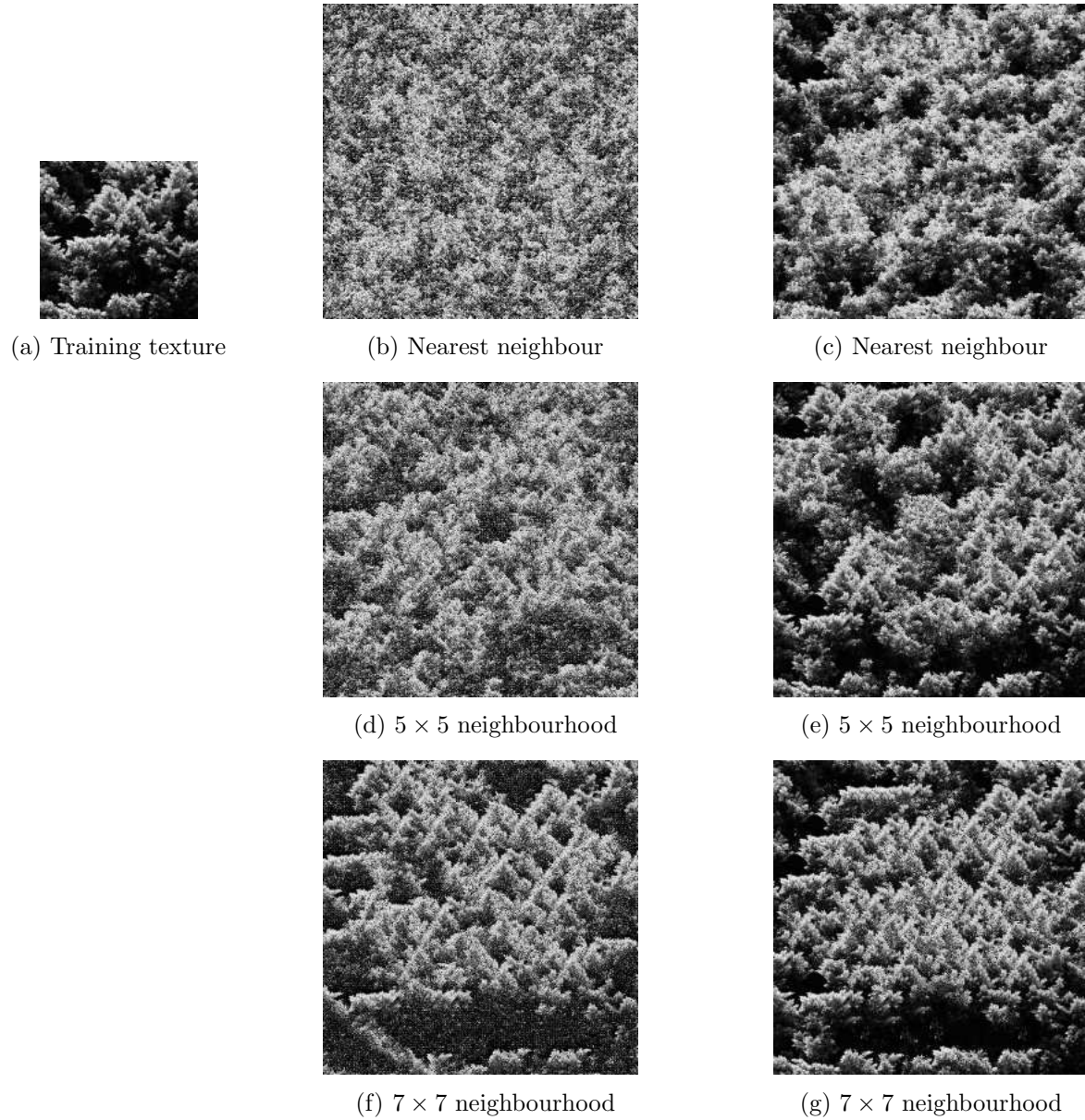


Figure B.145: VisTex texture Leaves.0007: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

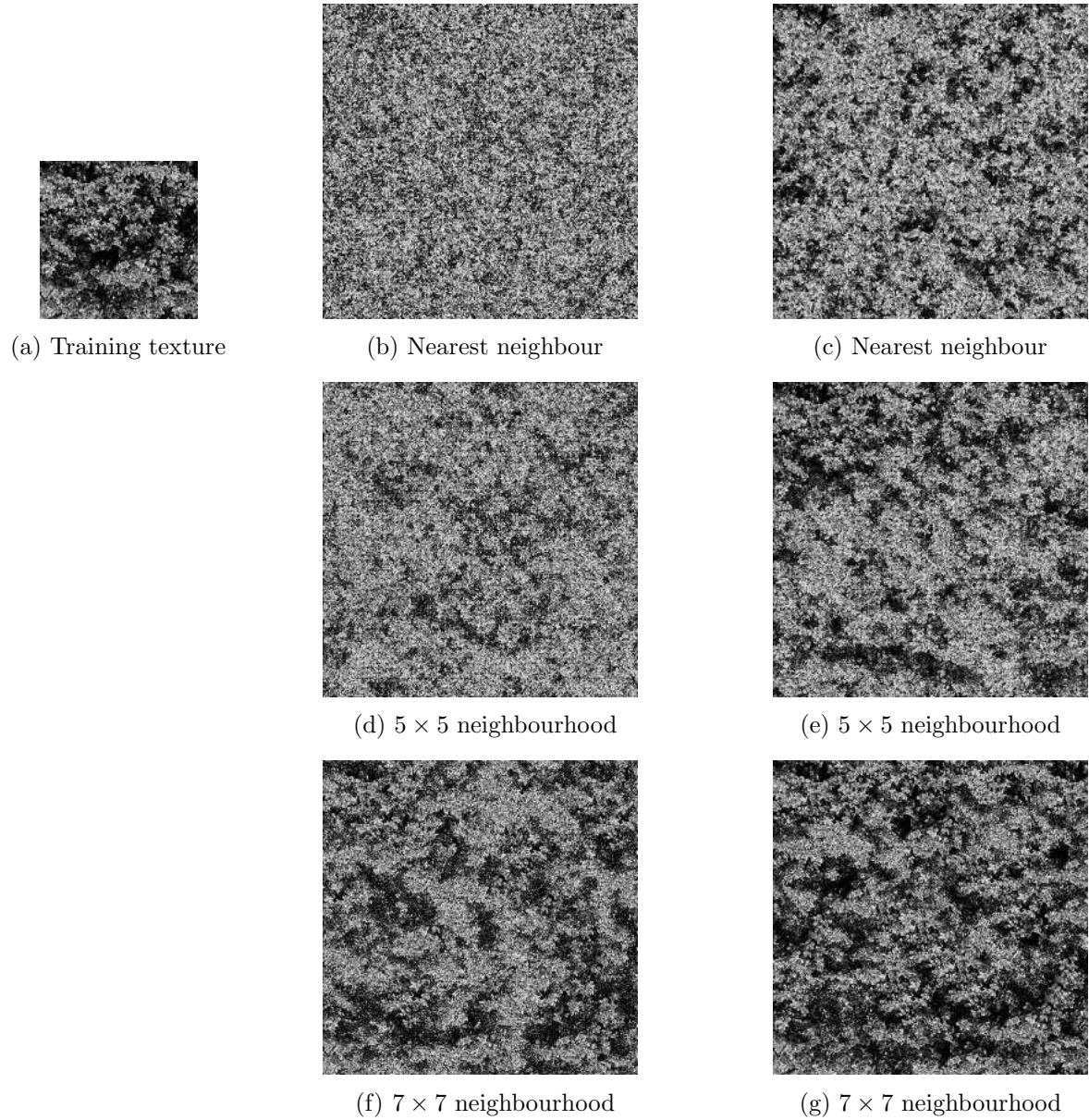


Figure B.146: VisTex texture Leaves.0008: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

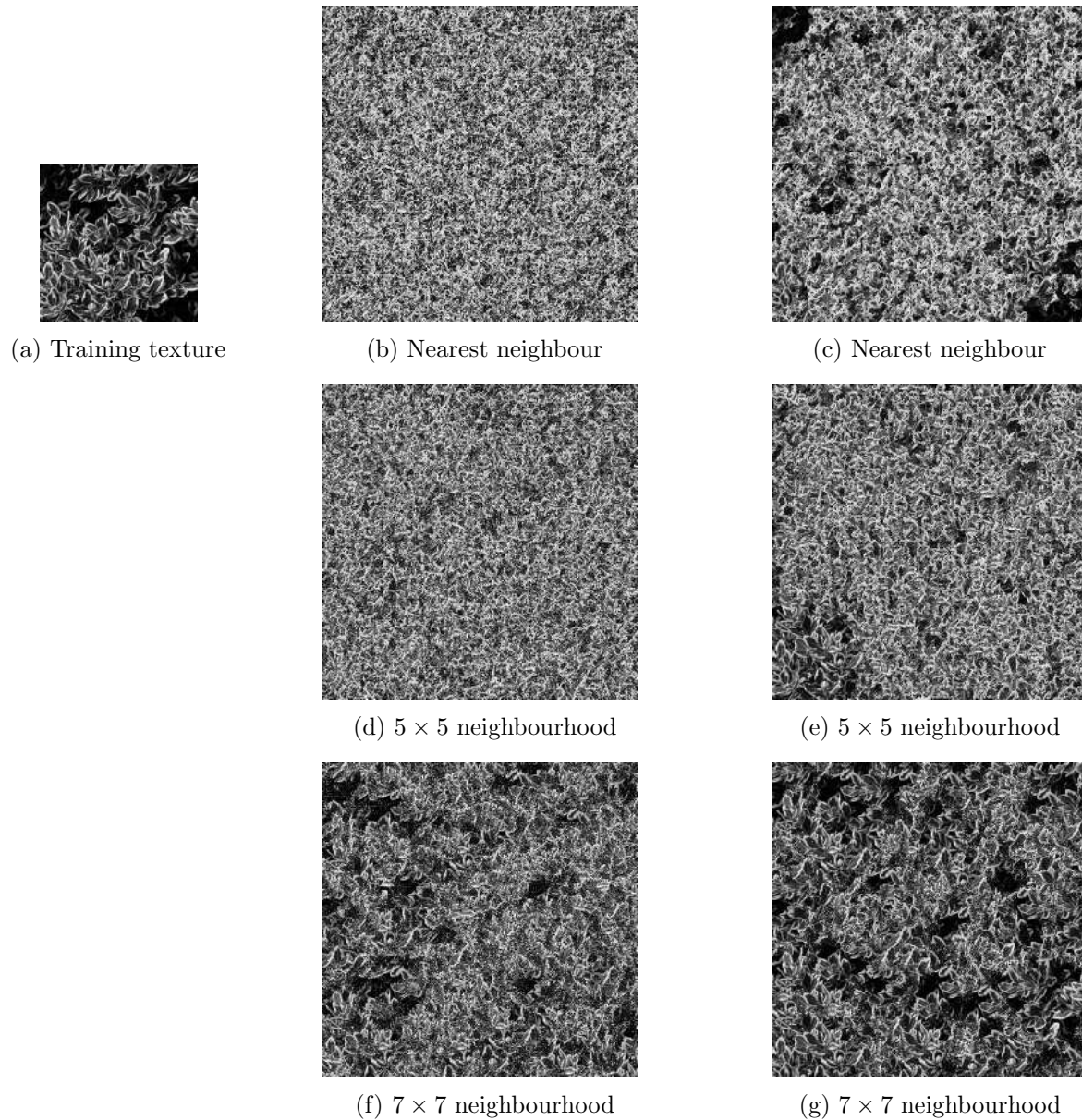


Figure B.147: VisTex texture Leaves.0009: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

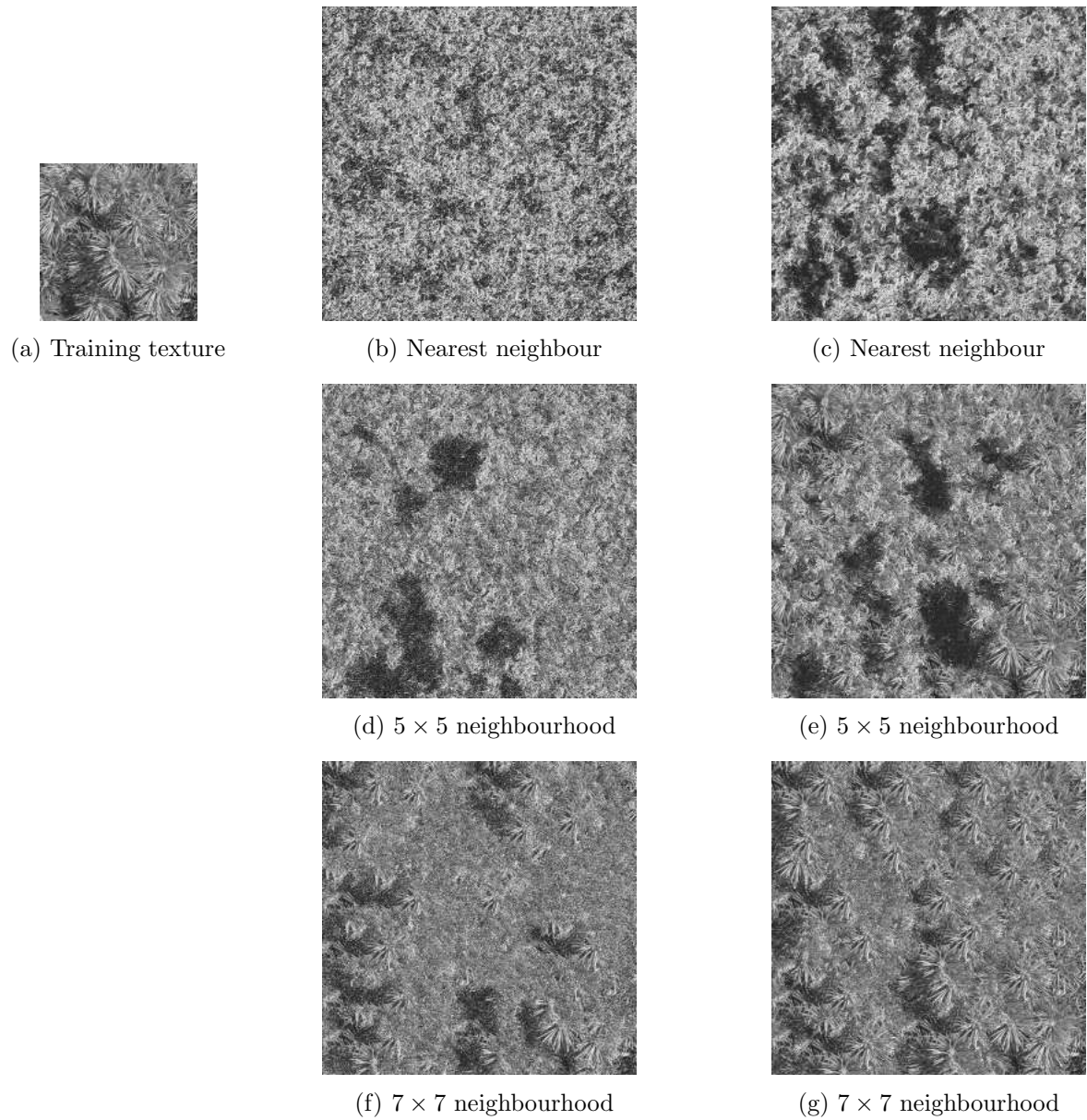


Figure B.148: VisTex texture Leaves.0010: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

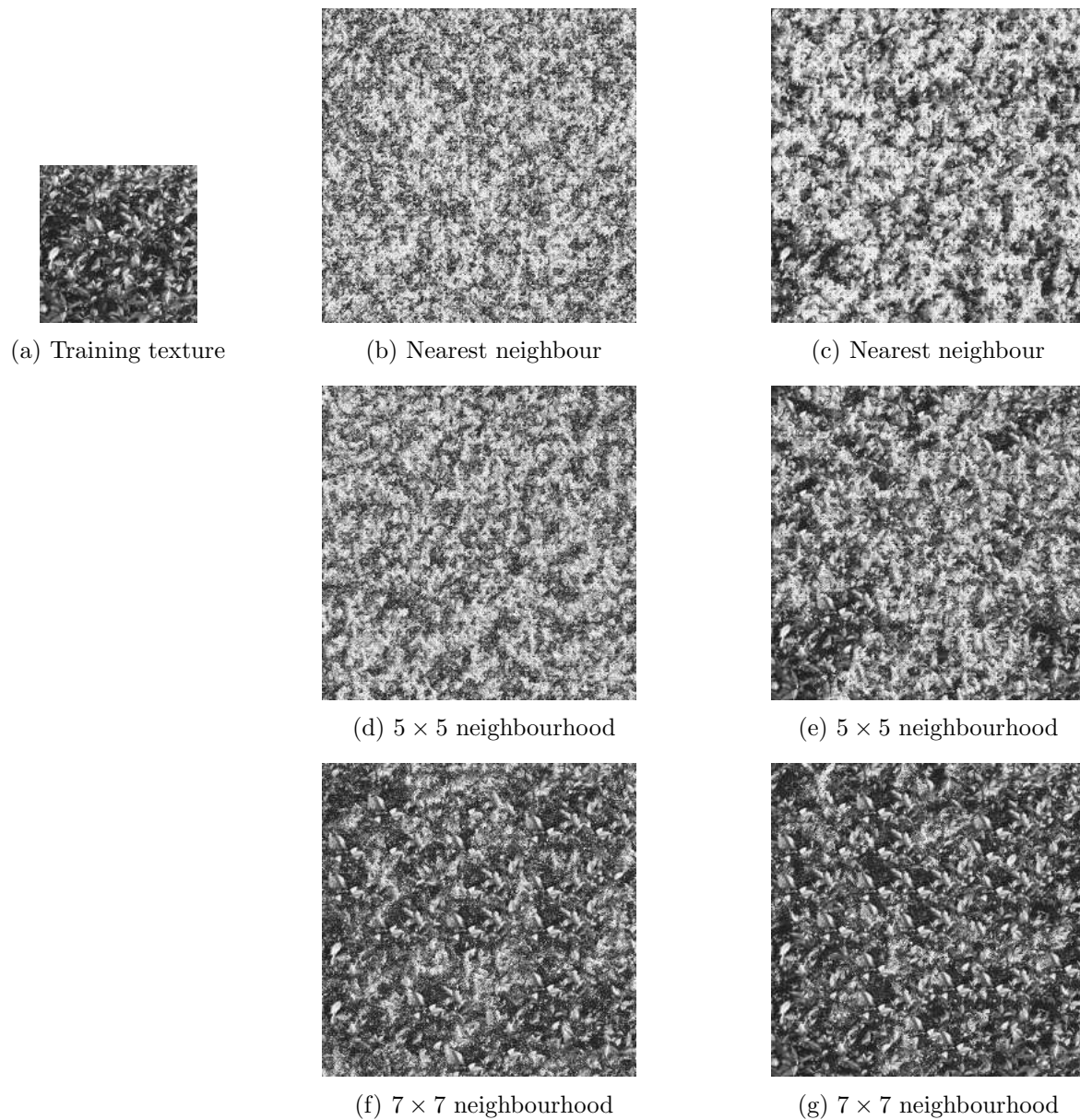


Figure B.149: VisTex texture Leaves.0011: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

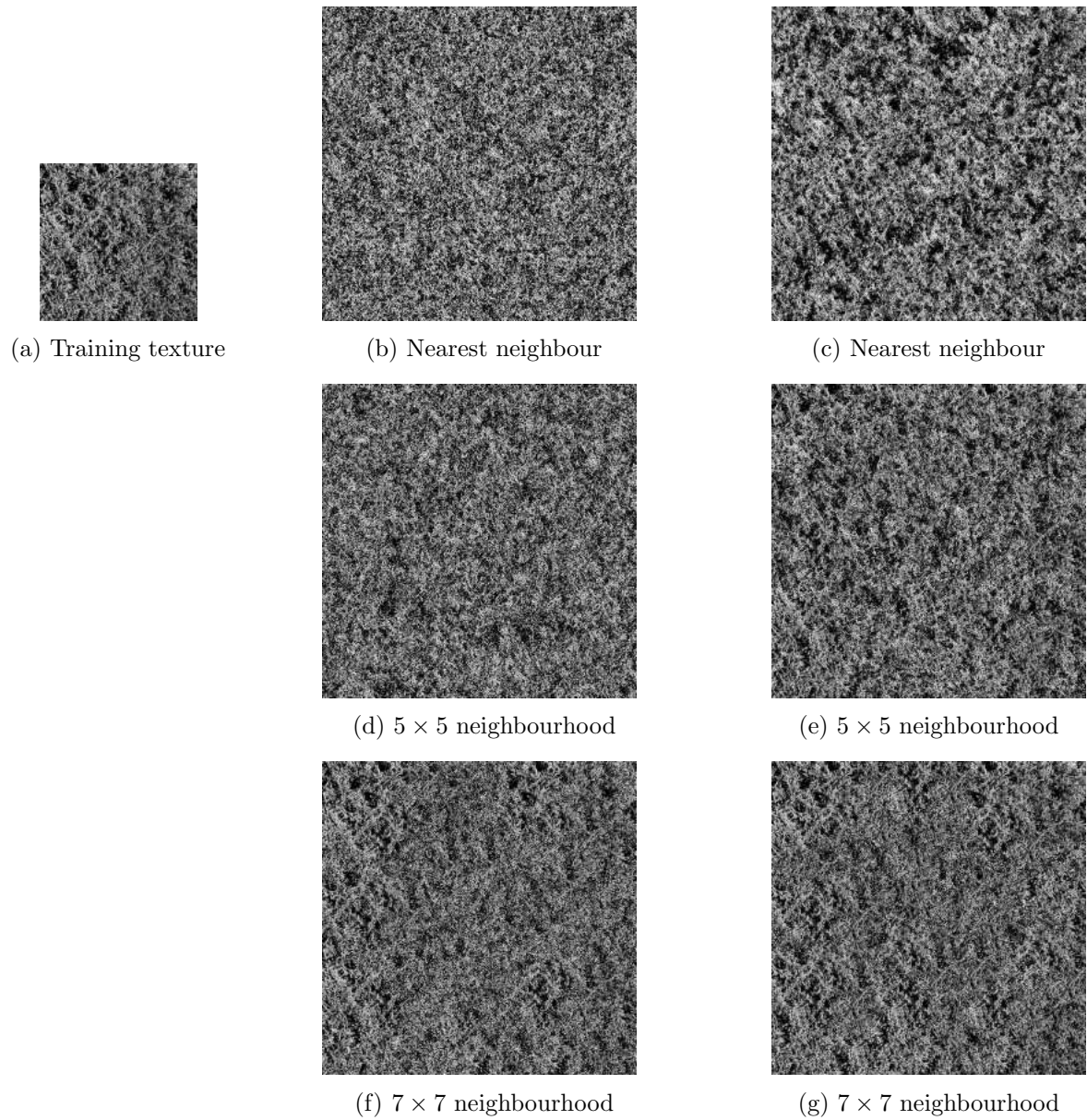


Figure B.150: VisTex texture Leaves.0012: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

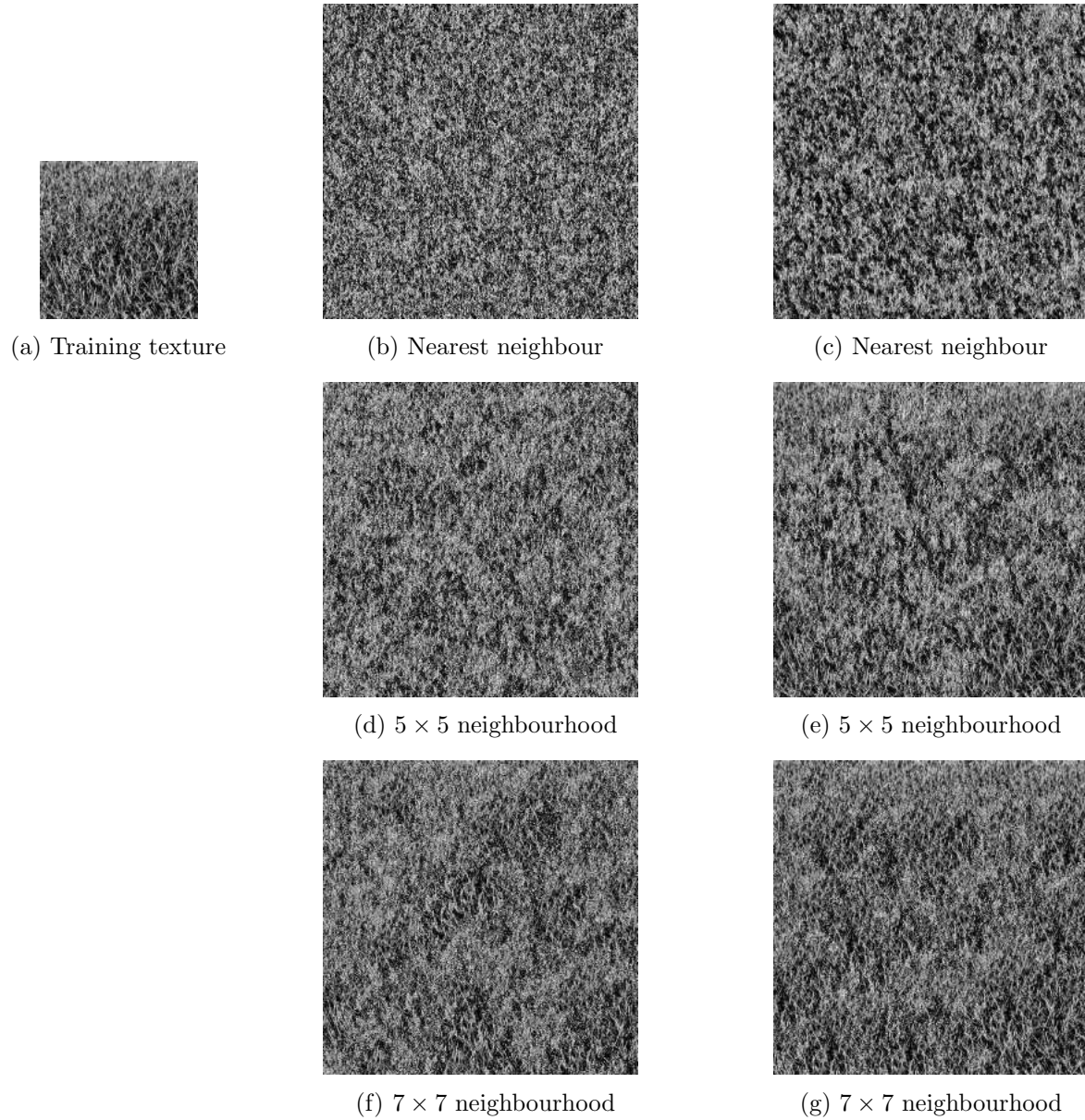


Figure B.151: VisTex texture Leaves.0013: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

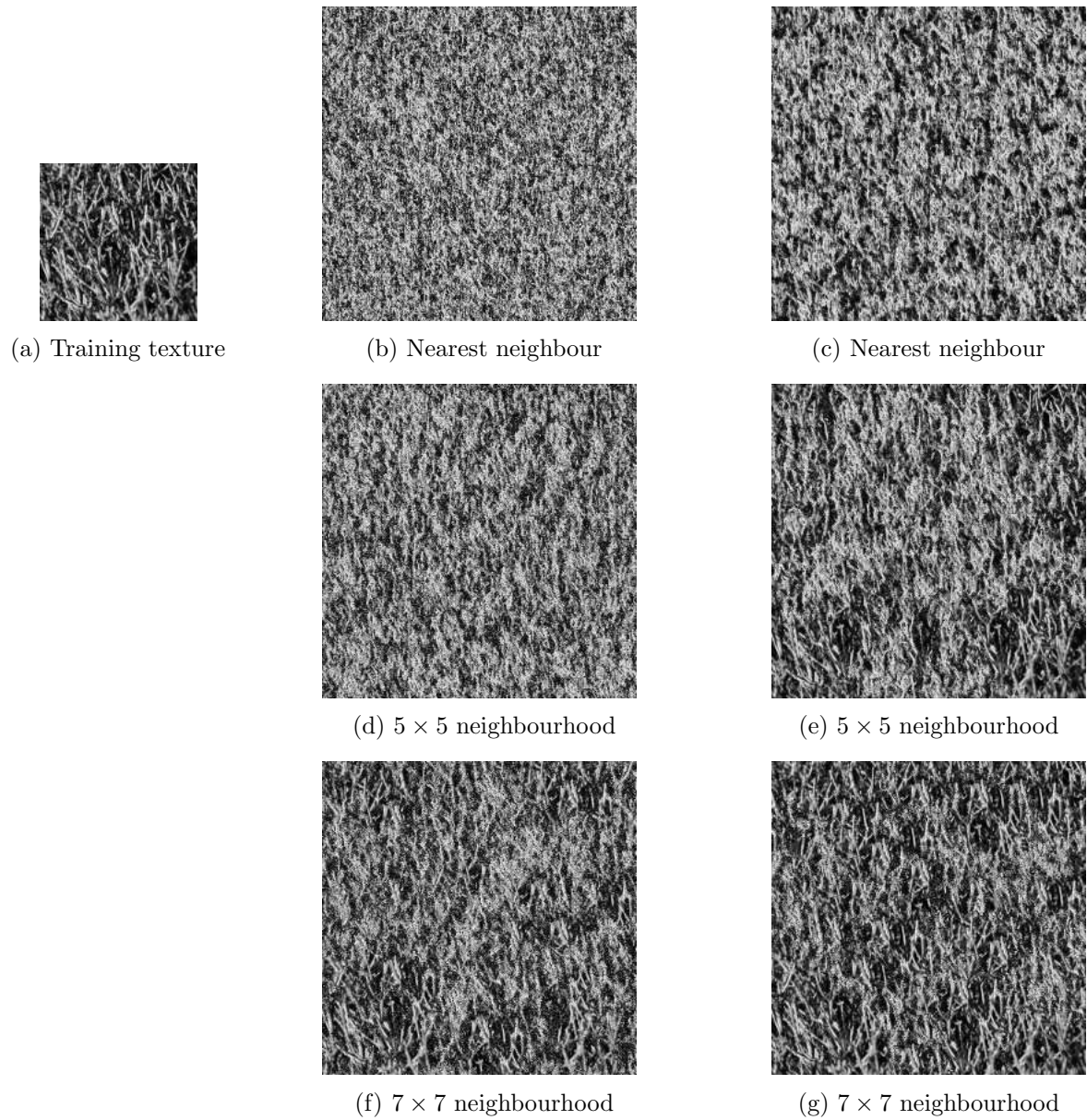


Figure B.152: VisTex texture Leaves.0014: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

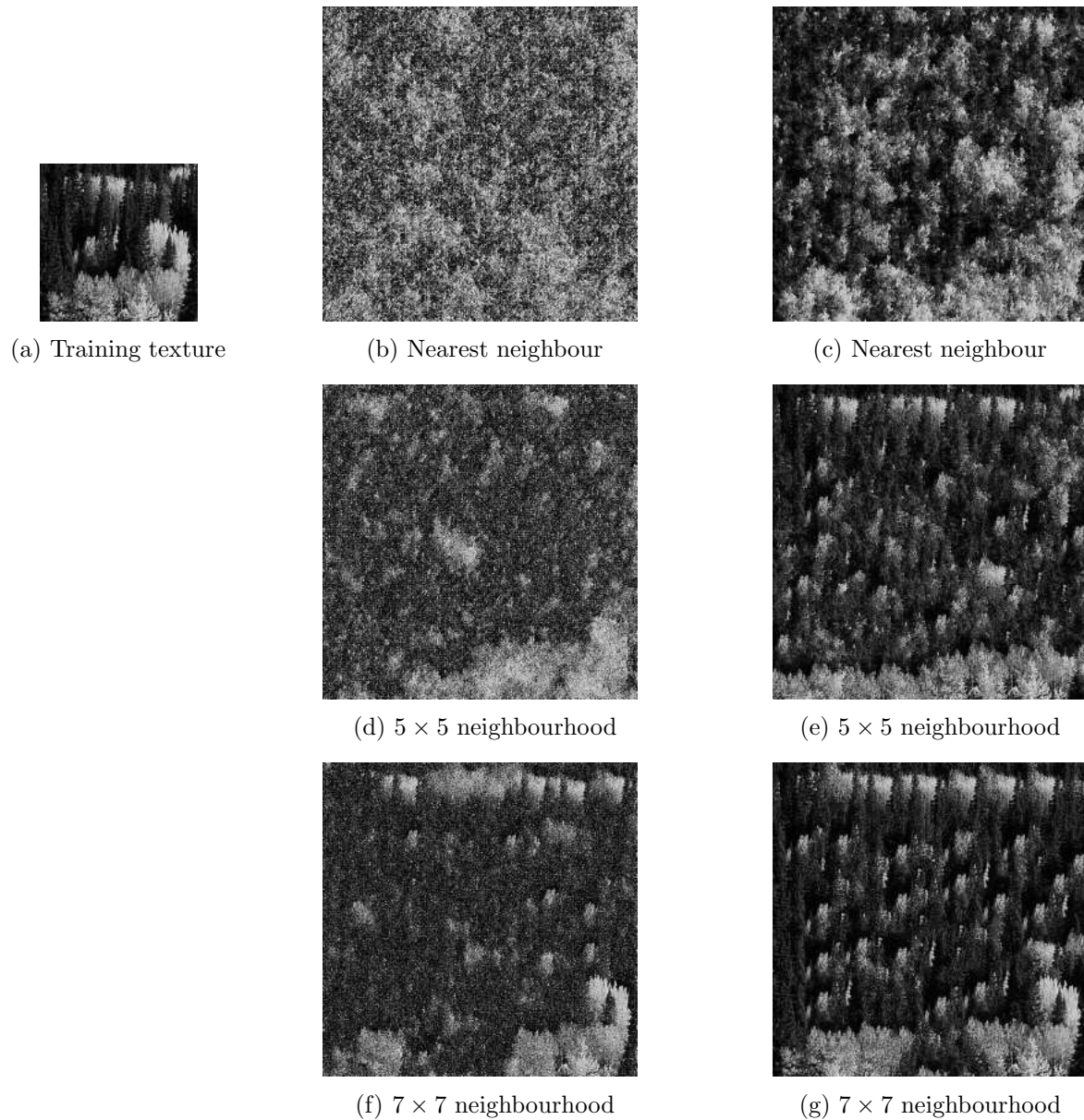


Figure B.153: VisTex texture Leaves.0015: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

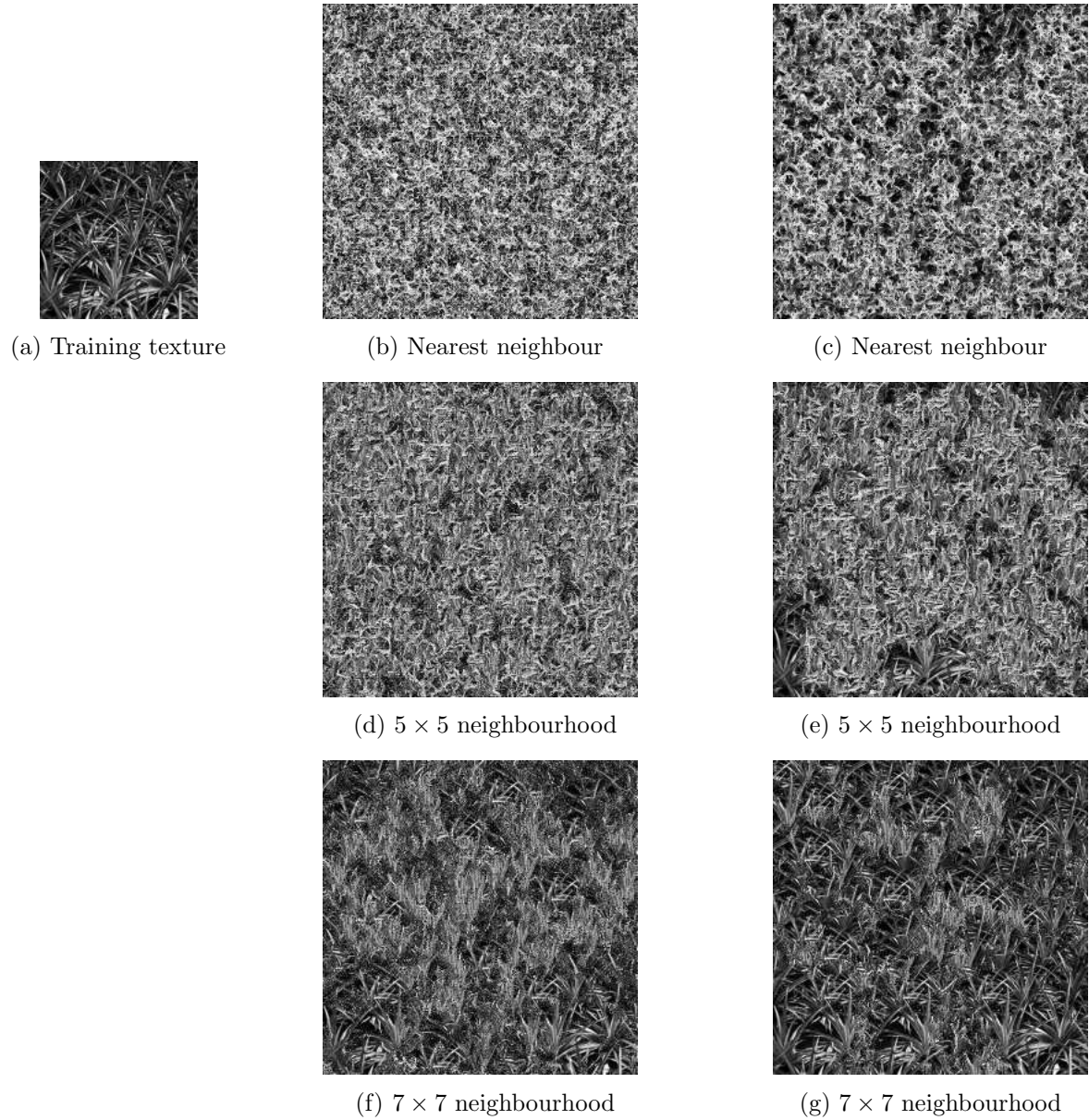


Figure B.154: VisTex texture Leaves.0016: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

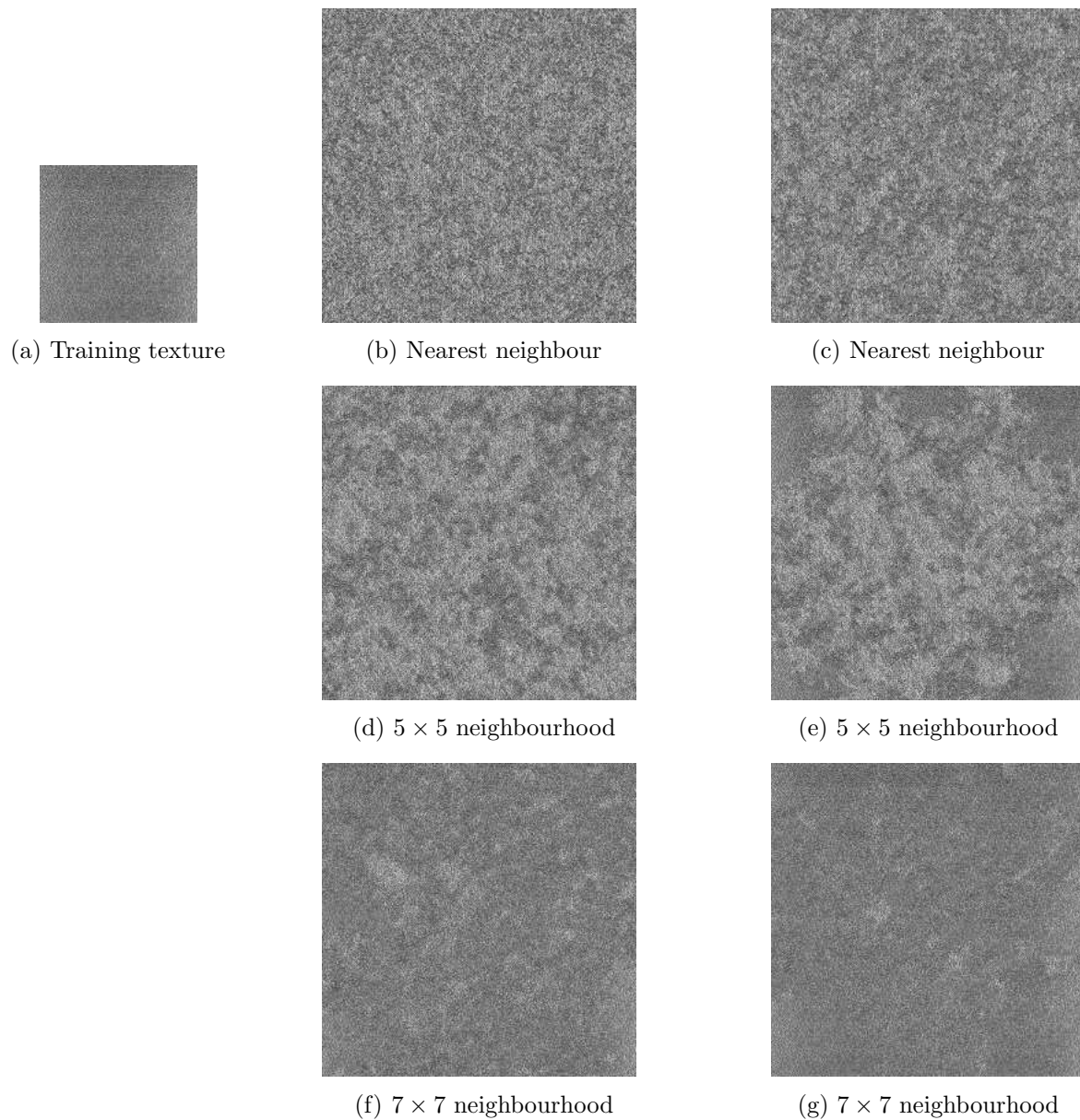


Figure B.155: VisTex texture Metal.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

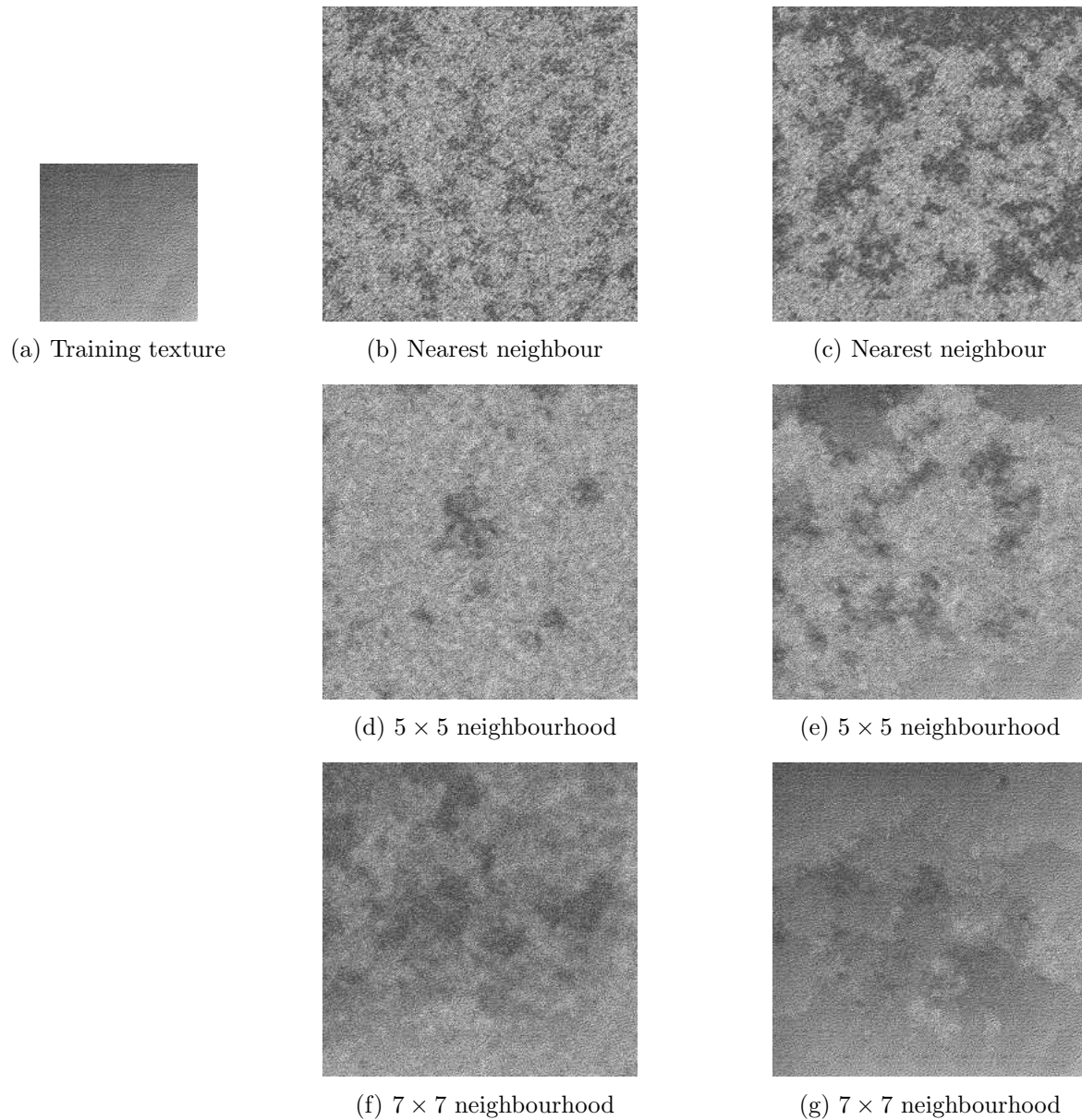


Figure B.156: VisTex texture Metal.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

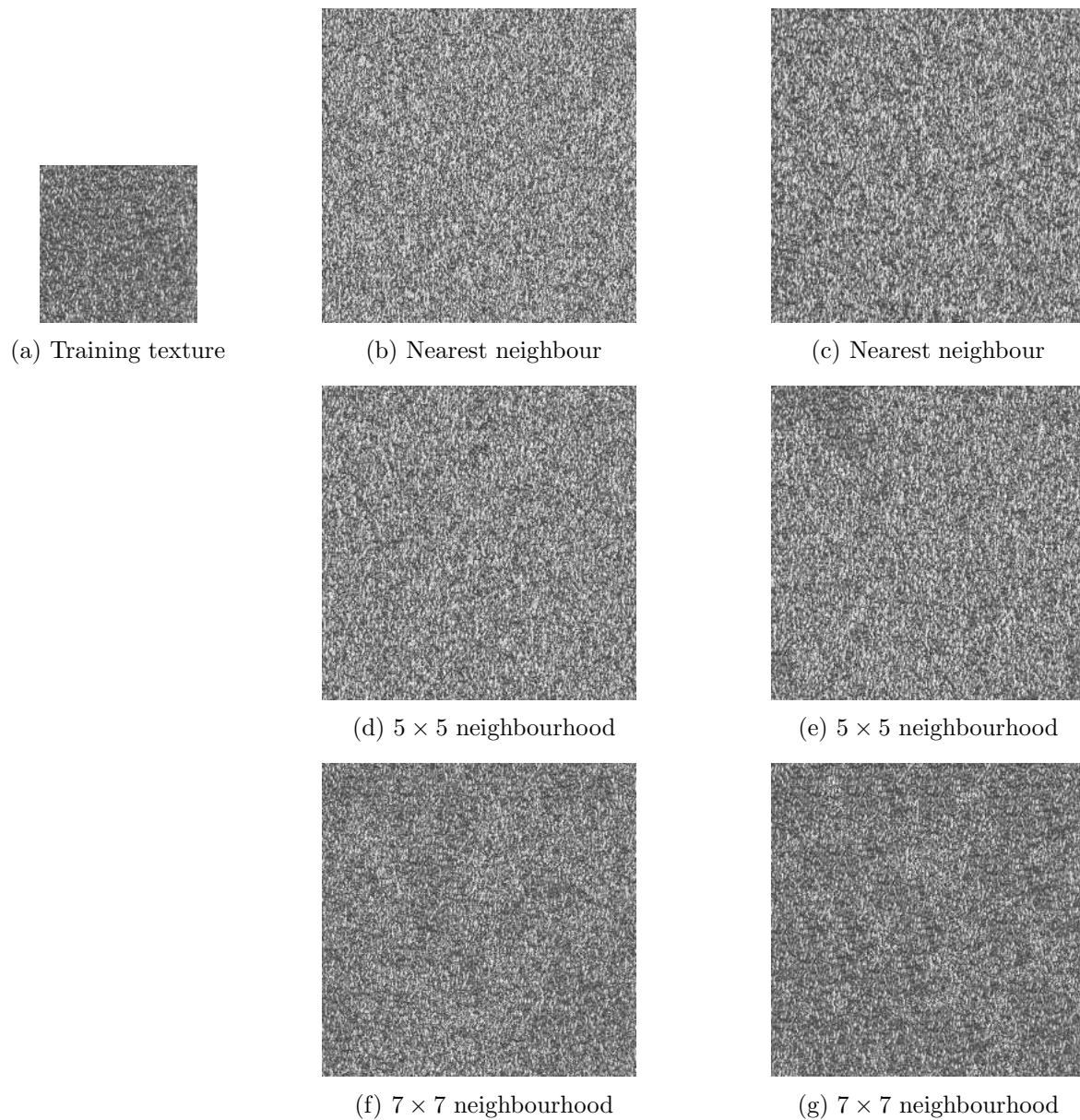


Figure B.157: VisTex texture Metal.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

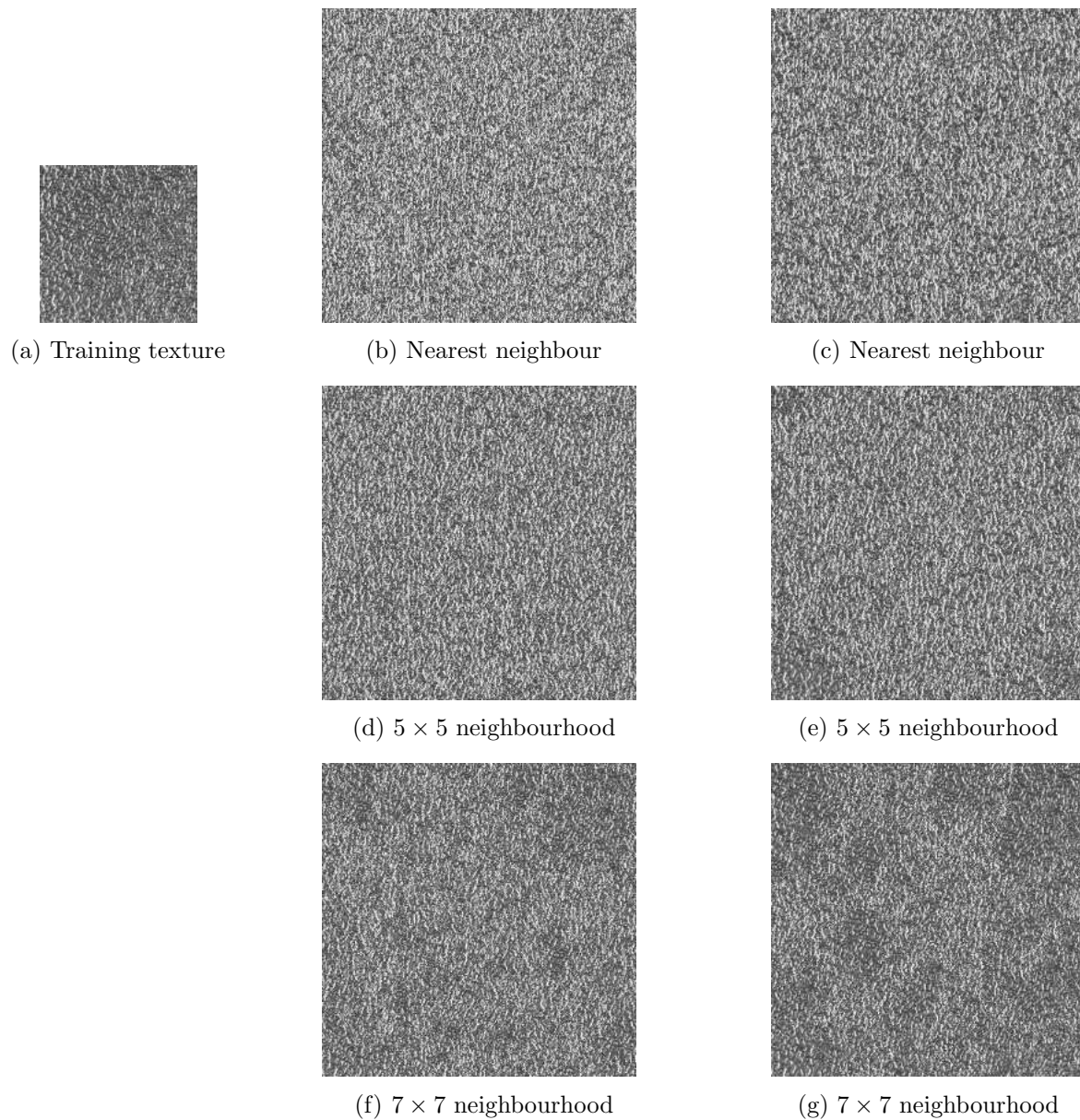


Figure B.158: VisTex texture Metal.0003: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

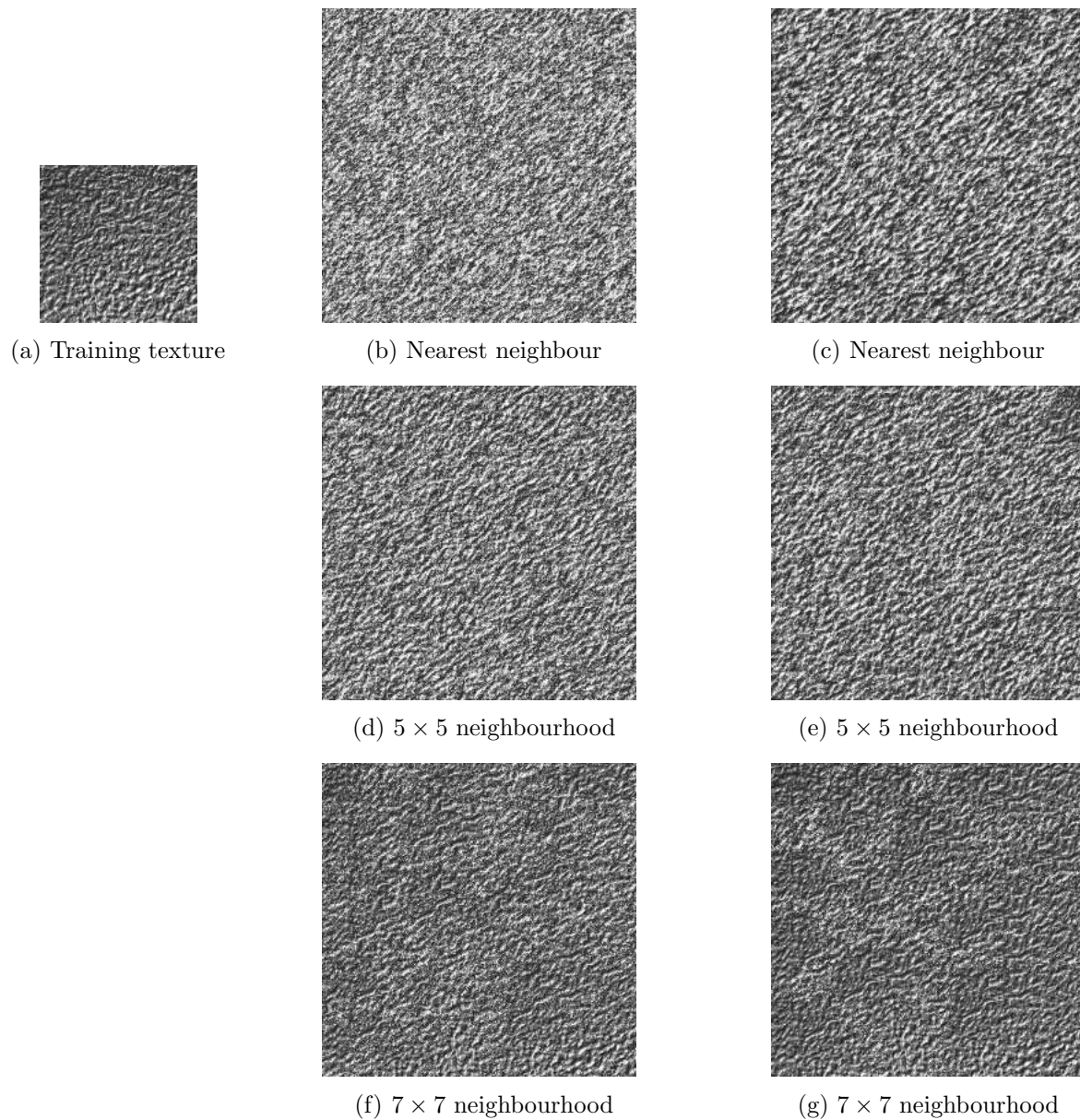


Figure B.159: VisTex texture Metal.0004: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

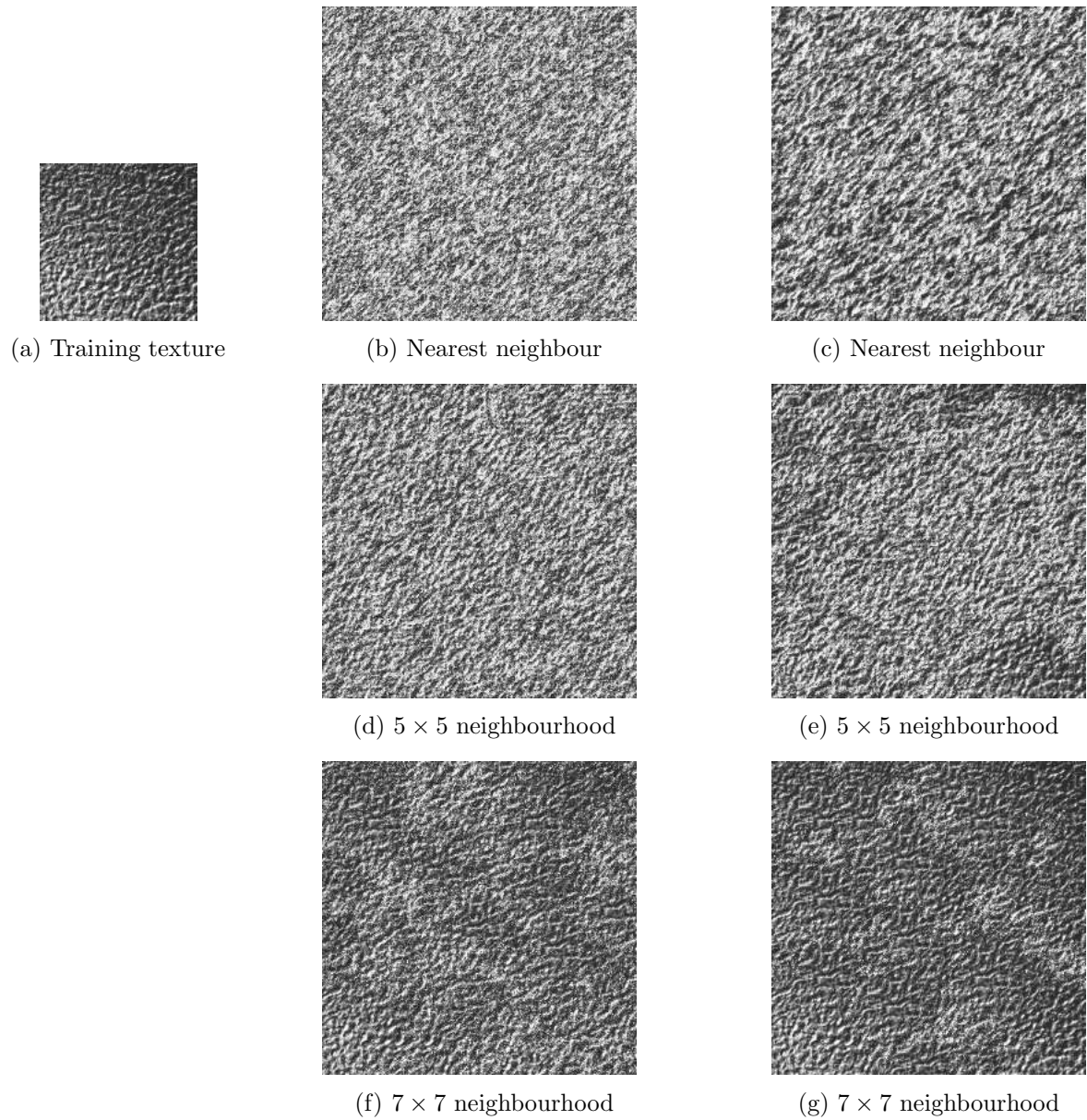


Figure B.160: VisTex texture Metal.0005: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

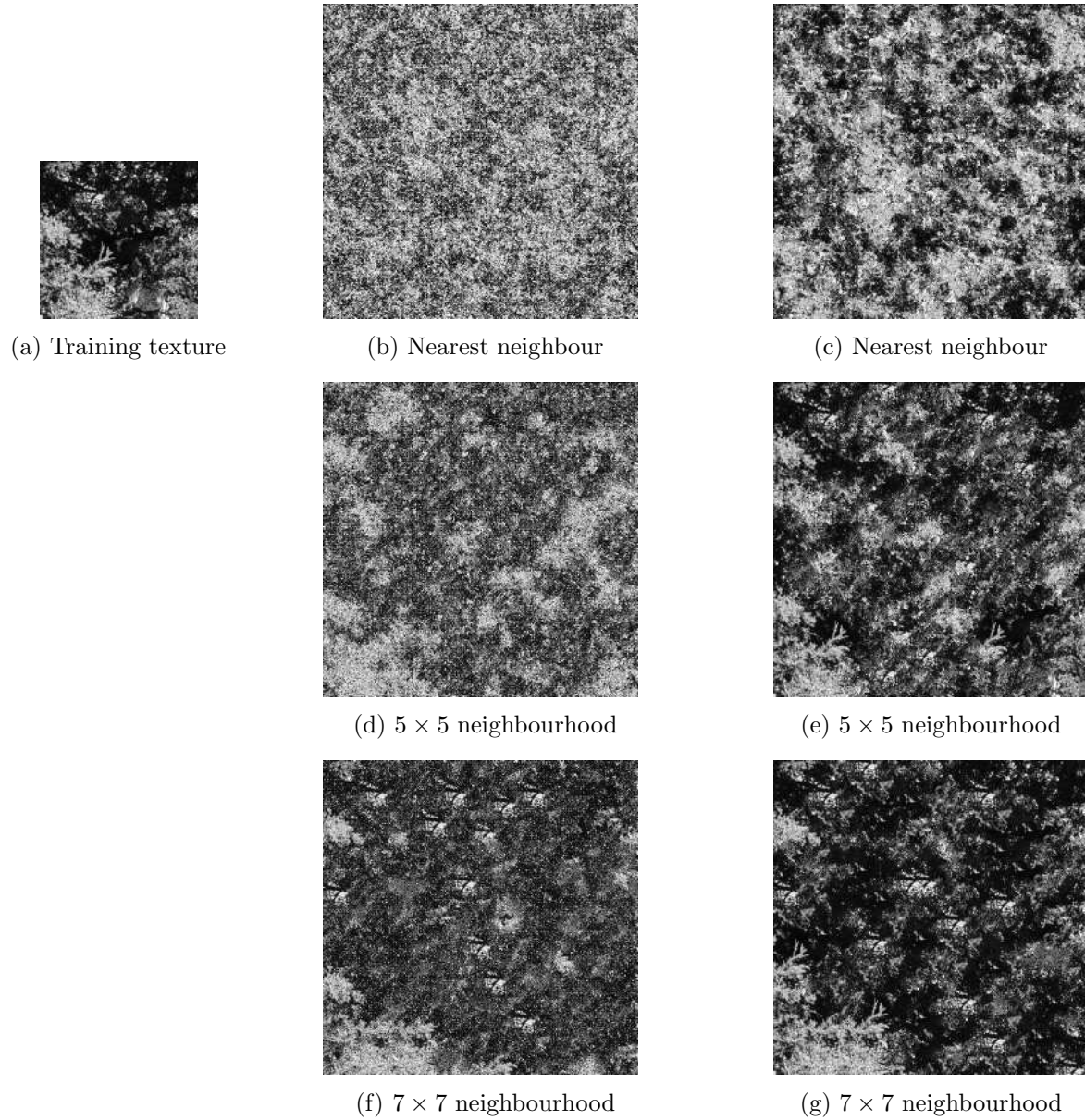


Figure B.161: VisTex texture WheresWaldo.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

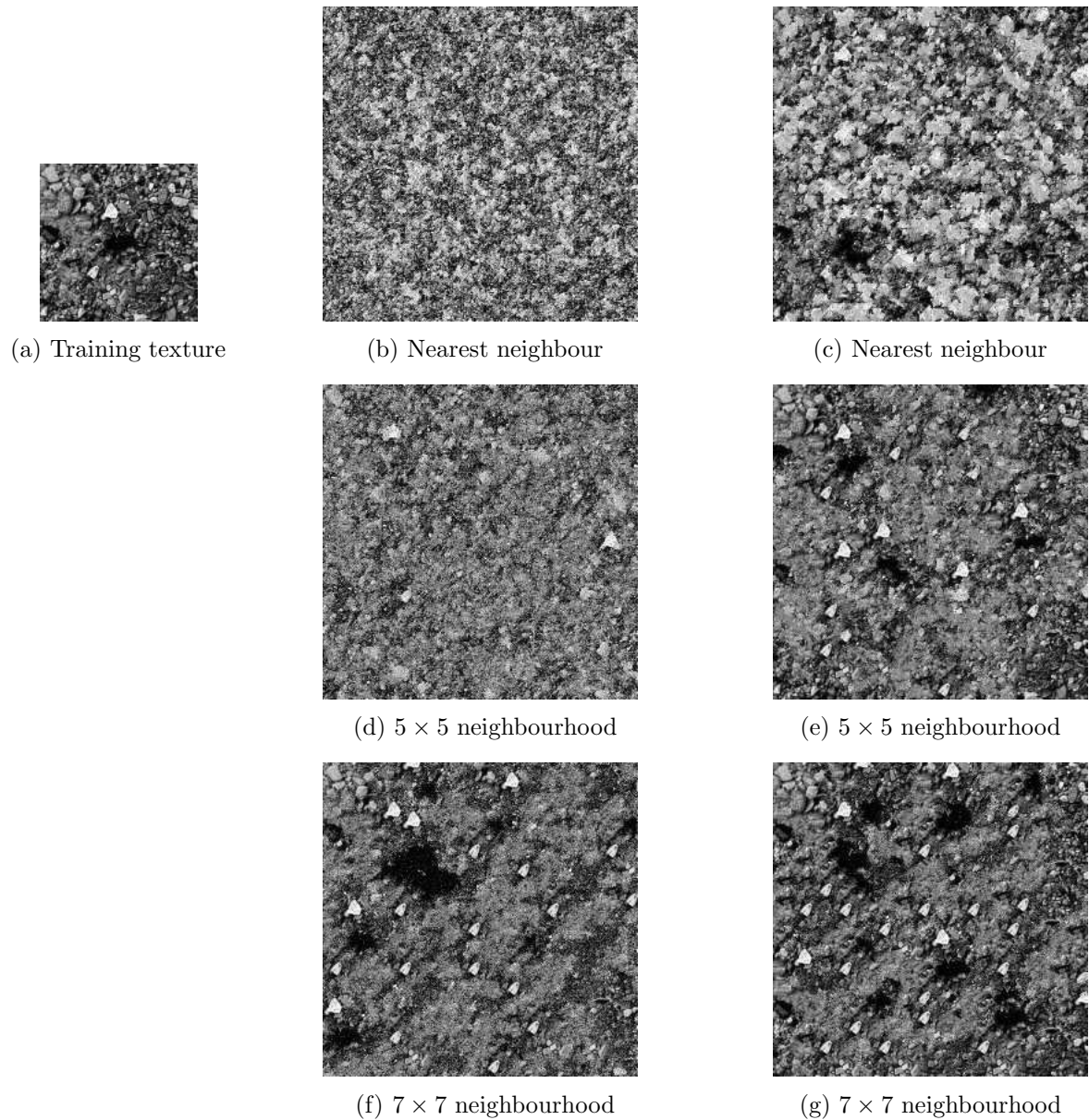


Figure B.162: VisTex texture WheresWaldo.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

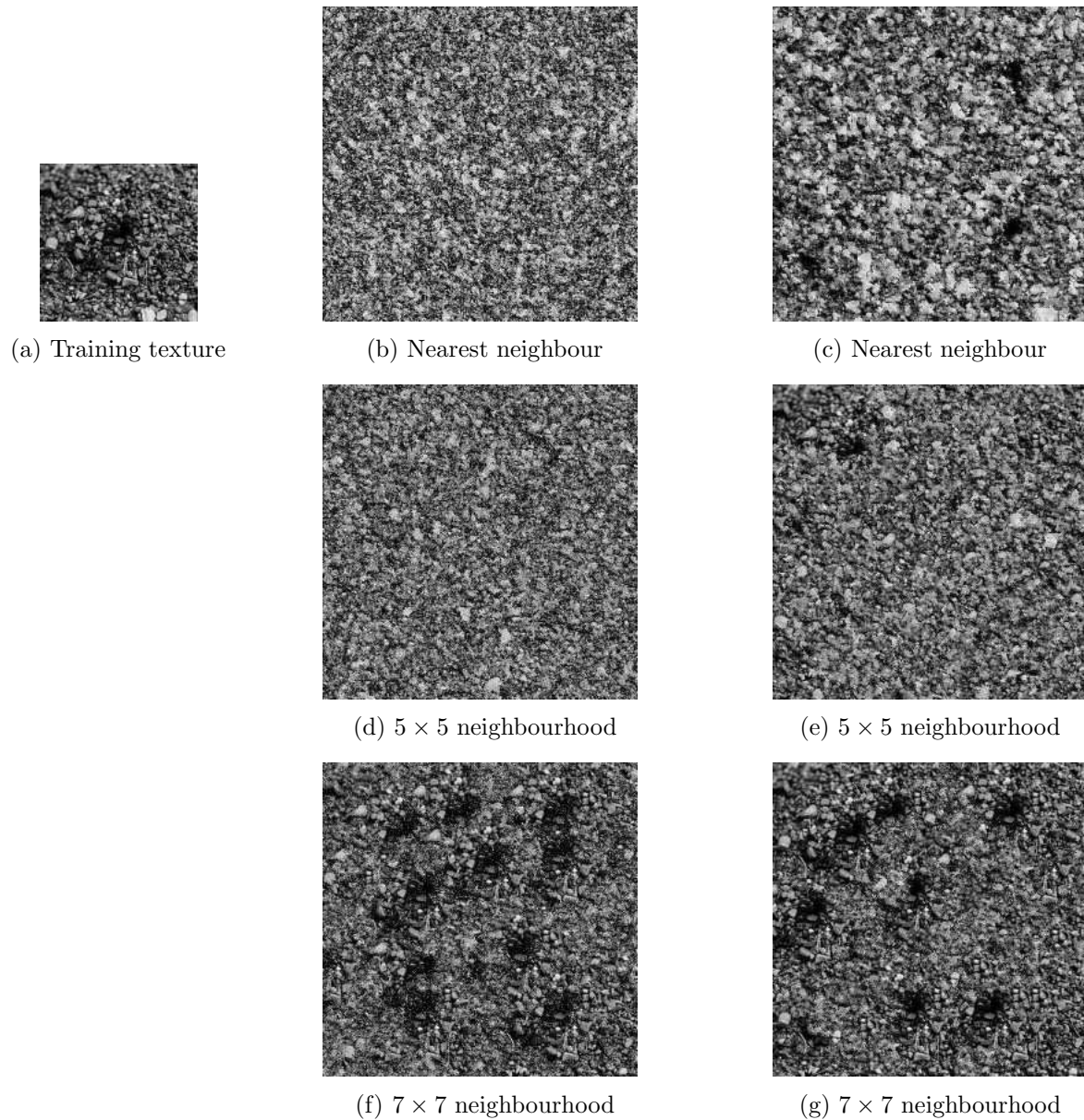


Figure B.163: VisTex texture WheresWaldo.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

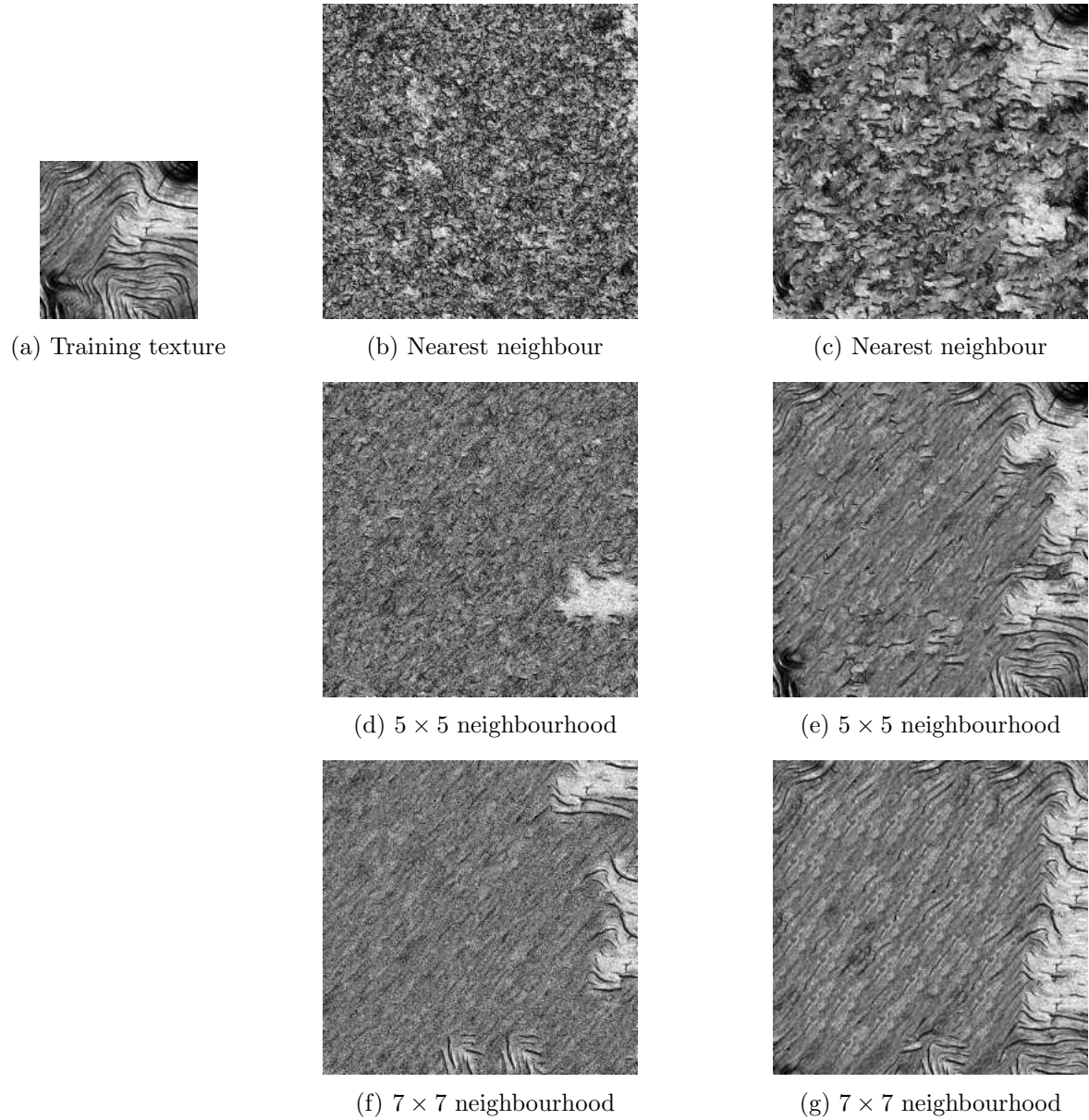


Figure B.164: VisTex texture Wood.0000: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

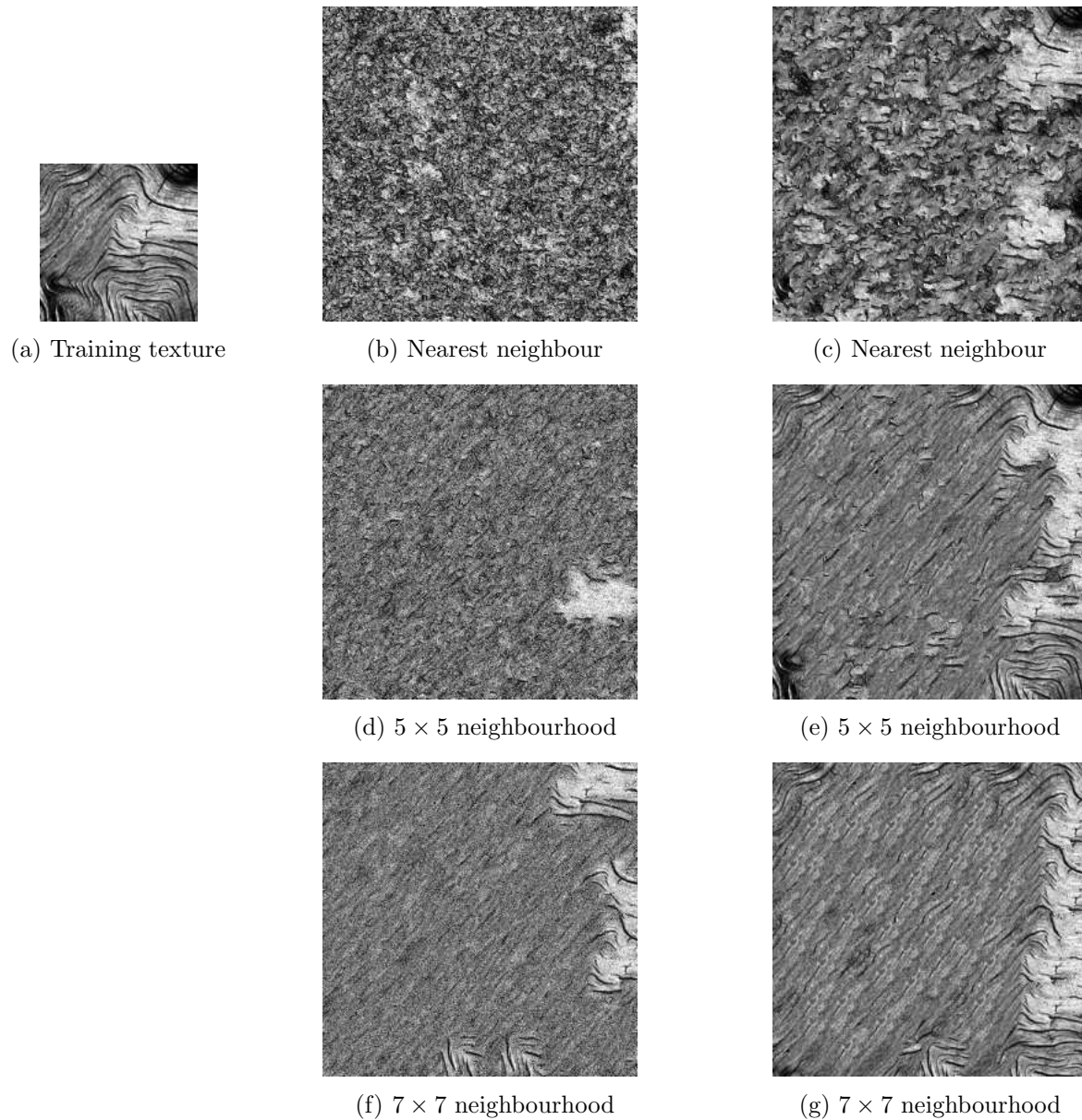


Figure B.165: VisTex texture Wood.0001: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

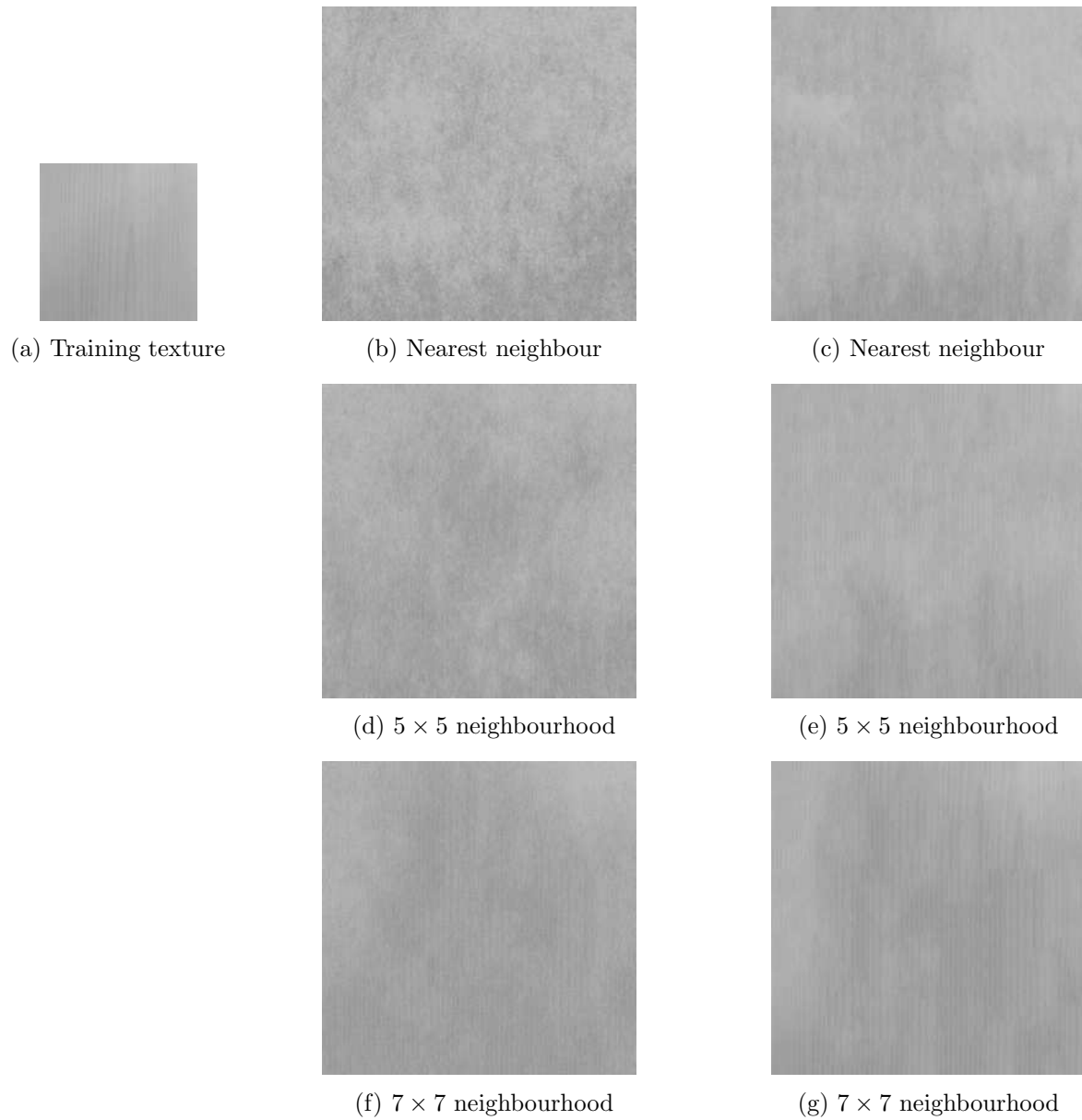


Figure B.166: VisTex texture Wood.0002: (a) original 128×128 image; (b–g) synthesised 256×256 images; (b) using Gibbs sampling and nearest neighbour neighbourhood; (c) using ICM sampling and nearest neighbour neighbourhood; (d) using Gibbs sampling and 5×5 neighbourhood; (e) using ICM sampling and 5×5 neighbourhood; (f) using Gibbs sampling and 7×7 neighbourhood; (g) using ICM sampling and 7×7 neighbourhood.

Bibliography

- [1] C. O. Acuna, “Texture modeling using Gibbs distributions,” *Computer Vision, Graphics, and Image Processing: Graphical Models and Image Processing*, vol. 54, no. 3, pp. 210–222, 1992.
- [2] A. Agresti, D. Wackerly, and J. M. Boyett, “Exact conditional tests for cross-classifications: approximation of attained significance levels,” *Psychometrika*, vol. 44, pp. 75–83, Mar. 1979.
- [3] N. Ahuja and A. Rosenfeld, “Mosaic models for textures,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-3, pp. 1–10, 1981.
- [4] H. Akaike, “A new look at statistical model identification,” *IEEE Transactions on Automatic Control*, vol. 19, pp. 716–723, 1974.
- [5] H. Akaike, “A bayesian analysis of the minimum aic procedure,” *The Annals of the Institute of Statistical Mathematics, Part A*, vol. 30, pp. 9–14, 1978.
- [6] D. A. Bader, J. JáJá, and R. Chellappa, “Scalable data parallel algorithms for texture synthesis using Gibbs random fields,” *IEEE Transactions on Image Processing*, vol. 4, no. 10, pp. 1456–1460, 1995.
- [7] M. F. Barnsley, *Fractals everywhere*. Boston: Academic Press Professional, 1993.
- [8] M. Basseville, A. Benveniste, K. C. Chou, S. A. Golden, R. Nikoukhah, and A. S. Willsky, “Modeling estimation of multiresolution stochastic processes,” *IEEE Transactions on Information Theory*, vol. 38, no. 2, pp. 766–784, 1992.
- [9] R. K. Beatson and W. A. Light, “Fast evaluation of radial basis functions: methods for two-dimensional polyharmonic splines,” *IMA Journal of Numerical Analysis*, vol. 17, pp. 343–372, July 1997.

- [10] Z. Belhadj, A. Saad, S. E. Assad, J. Saillard, and D. Barba, "Comparative study of some algorithms for terrain classification using SAR images," in *Proceedings ICASSP'94 1994 International Conference on Acoustics, Speech and Signal Processing*, vol. 5, (Adelaide), pp. 165–168, 1994.
- [11] R. E. Bellman, *Adaptive Control Processes: A Guided Tour*. Princeton University press: Princeton, 1961.
- [12] C. Bennis and A. Gagalowicz, "2-D macroscopic texture synthesis," *Computer Graphics Forum*, vol. 8, pp. 291–300, 1989.
- [13] J. R. Bergen and E. H. Adelson, "Early vision and texture perception," *Nature*, vol. 333, pp. 363–364, May 1988.
- [14] J. R. Bergen and B. Julesz, "Rapid discrimination of visual patterns," *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 13, no. 5, pp. 857–863, 1983.
- [15] J. R. Bergen and M. S. Landy, "Computational modeling of visual texture segregation," in *Computational Models of Vision Processing* (M. S. Landy and J. A. Movshon, eds.), pp. 253–271, Cambridge MA: MIT Press, 1991.
- [16] J. Berkson, "Maximum likelihood and minimum chi-square estimates of the logistic function," *Journal of the American Statistical Association*, vol. 50, pp. 130–162, 1955.
- [17] J. E. Besag, "Spatial interaction and the statistical analysis of lattice systems," *Journal of the Royal Statistical Society, series B*, vol. 36, pp. 192–326, 1974.
- [18] J. E. Besag, "Statistical analysis of non-lattice data," *Statistician*, vol. 24, pp. 179–195, 1975.
- [19] J. E. Besag, "On the statistical analysis of dirty pictures," *Journal Of The Royal Statistical Society*, vol. B-48, pp. 259–302, 1986.
- [20] J. E. Besag and P. A. P. Moran, "Efficiency of pseudo-likelihood estimation for simple Gaussian fields," *Biometrika*, vol. 64, pp. 616–618, 1977.
- [21] Y. M. M. Bishop, "Effects of collapsing multidimensional contingency tables," *Biometrics*, vol. 27, pp. 545–562, Sept. 1971.

- [22] Y. M. M. Bishop, S. E. Fienberg, and P. W. Holland, *Discrete Multivariate Analysis: Theory and Practice*. Cambridge: MIT Press, 1975.
- [23] J. S. D. Bonet, “Multiresolution sampling procedure for analysis and synthesis of texture images,” in *Computer Graphics*, pp. 361–368, ACM SIGGRAPH, 1997. <http://www.ai.mit.edu/~jsd>.
- [24] J. S. D. Bonet and P. Viola, “Texture recognition using a non-parametric multi-scale statistical model,” in *Proceedings IEEE Conference on Computer Vision and Pattern Recognition*, 1988. <http://www.ai.mit.edu/~jsd>.
- [25] J. S. D. Bonet and P. Viola, “A non-parametric multi-scale statistical model for natural images,” in *Advances in Neural Information Processing*, vol. 10, 1997. <http://www.ai.mit.edu/~jsd>.
- [26] C. Bouman and B. Liu, “Multiple resolution segmentation of textured images,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 13, no. 2, pp. 99–113, 1991.
- [27] C. A. Bouman and M. Shapiro, “A multiscale random field model for Bayesian image segmentation,” *IEEE Transactions on Image Processing*, vol. 3, no. 2, pp. 162–177, 1994.
- [28] P. Brodatz, *Textures – a photographic album for artists and designers*. New York: Dover Publications Inc., 1966.
- [29] W. M. Brown and L. J. Porcello, “An introduction to synthetic aperture radar,” *IEEE Spectrum*, pp. 52–62, 1969.
- [30] P. J. Burt and E. H. Adelson, “The Laplacian pyramid as a compact image code,” *IEEE Transactions on Communications*, vol. 31, no. 4, pp. 532–540, 1983.
- [31] T. Caelli, B. Julesz, and E. Gilbert, “On perceptual analyzers underlying visual texture discrimination: Part II,” *Biological Cybernetics*, vol. 29, no. 4, pp. 201–214, 1978.
- [32] J. W. Campbell and J. G. Robson, “Application of Fourier analysis to the visibility of gratings,” *Journal of Physiology*, vol. 197, pp. 551–566, 1968.

- [33] V. Cerny, "Thermodynamical approach to the travelling salesman problem: an efficient simulation algorithm," *Journal Of Optimization Theory And Applications*, vol. 45, pp. 41–51, 1985.
- [34] S. Chatterjee, "Classification of natural textures using Gaussian Markov random field models," in *Markov Random Fields Theory And Application* (R. Chellappa and A. Jain, eds.), pp. 159–177, Boston, Sydney: Academic Press, 1993.
- [35] B. B. Chaudhuri, N. Sarkar, and P. Kundu, "Improved fractal geometry based texture segmentation technique," *IEE Proceedings Computers And Digital Techniques*, vol. 140, pp. 233–241, Sept. 1993.
- [36] R. Chellappa, *Stochastic Models in Image Analysis and Processing*. PhD thesis, Purdue University, 1981.
- [37] R. Chellappa and R. L. Kashyap, "Texture synthesis using 2-D noncausal autoregressive models," *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol. ASSP-33, no. 1, pp. 194–203, 1985.
- [38] R. Chellappa, R. L. Kashyap, and B. S. Manjunath, "Model-based texture segmentation and classification," in *Handbook of Pattern Recognition and Computer Vision* (C. H. Chen, L. F. Pau, and P. S. P. Wang, eds.), pp. 277–310, Singapore: World Scientific, 1993.
- [39] R. Chellappa, "Two-dimensional discrete Gaussian Markov random field models for image processing," in *Progress in Pattern Recognition* (L. N. Kanal and A. Rosenfeld, eds.), vol. 2, pp. 79–122, North-Holland Pub. Co., 1985.
- [40] R. Chellappa and S. Chatterjee, "Classification of textures using Gaussian Markov random fields," *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol. ASSP-33, no. 4, pp. 959–963, 1985.
- [41] C. C. Chen, J. S. DaPonte, and M. D. Fox, "Fractal feature analysis and classification in medical imaging," *IEEE Transactions on Medical Imaging*, vol. 8, pp. 133–142, June 1989.
- [42] C. C. Chen and R. C. Dubes, "Experiments in fitting discrete Markov random fields to textures," in *Proceedings CVPR '89 IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, (San Diego, CA), pp. 298–303, IEEE Comput. Soc. Press, June 1989.

- [43] C.-C. Chen, *Markov random fields in image processing*. PhD thesis, Michigan State University, 1988.
- [44] C. Chubb and M. S. Landy, "Orthogonal distribution analysis: a new approach to the study of texture perception," in *Computational Models of Vision Processing* (M. S. Landy and J. A. Movshon, eds.), pp. 291–301, Cambridge MA: MIT Press, 1991.
- [45] M. Clark, A. C. Bovik, and W. S. Geisler, "Texture segmentation using Gabor modulation/demodulation," *Pattern Recognition Letters*, vol. 6, no. 4, pp. 261–267, 1987.
- [46] J. M. Coggins, *A Framework for Texture Analysis Based on Spatial Filtering*. PhD thesis, Computer Science Department, Michigan State University, East Lansing, MI, 1982.
- [47] J. M. Coggins and A. K. Jain, "A spatial filtering approach to texture analysis," *Pattern-Recognition-Letters*, vol. 3, pp. 195–203, May 1985.
- [48] F. S. Cohen and D. B. Cooper, "Simple parallel hierarchical and relaxation algorithms for segmenting noncausal Markovian random fields," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 9, pp. 195–219, Mar. 1987.
- [49] Computer Vision Group, "Segmentation of textured images," <http://www-dbv.cs.uni-bonn.de/image/segmentation.html>, Apr. 1997.
- [50] G. C. Cross and A. K. Jain, "Markov random field texture models," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 5, pp. 25–39, 1983.
- [51] J. Dale, "Asymptotic normality of goodness-of-fit statistics for sparse product multinomials," *Journal of the Royal Statistical Association*, vol. 48, no. 1, pp. 48–59, 1986.
- [52] J. G. Daugman, "Two-dimensional spectral analysis of cortical receptive field profiles," *Vision Research*, vol. 20, no. 10, pp. 847–856, 1980.
- [53] E. J. Delp, R. L. Kashyap, and O. R. Mitchell, "Image data compression using autoregressive time series models," *Pattern Recognition*, vol. 11, no. 5–6, pp. 313–323, 1979.

- [54] H. Derin and H. Elliott, "Modelling and segmentation of noisy textured images using Gibbs random fields," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-9, no. 1, pp. 39–55, 1987.
- [55] H. Derin and C.-S. Won, "A parallel image segmentation algorithm using relaxation with varying neighbourhoods and its mapping to array processors," *Computer Vision, Graphics, and Image Processing*, vol. 40, pp. 54–78, 1987.
- [56] R. L. Devalois, D. G. Albrecht, and L. G. Thorell, "Spatial-frequency selectivity of cells in macaque visual cortex," *Vision Research*, vol. 22, pp. 545–559, 1982.
- [57] P. Dewaele, L. Van-Gool, A. Wambacq, and A. Oosterlinck, "Texture inspection with self-adaptive convolution filters," in *Proceedings 9th International Conference on Pattern Recognition*, vol. 2, (Rome, Italy), pp. 56–60, IEEE Computer Society Press, Nov. 1988.
- [58] L. J. Du, "Texture segmentation of SAR images using localized spatial filtering," in *Proceedings of International Geoscience and Remote Sensing Symposium*, vol. III, (Washington, DC), pp. 1983–1986, 1990.
- [59] R. C. Dubes and A. K. Jain, "Random field models in image analysis," *Journal of Applied Statistics*, vol. 16, no. 2, pp. 131–164, 1989.
- [60] R. O. Duda and P. E. Hart, *Pattern Classification and Scene Analysis*. Stanford Research Institute, Menlo Park, California: John Wiley, 1973.
- [61] Earth Resources Observation Systems, "EROS data center: Earthshots," <http://edcwww.cr.usgs.gov/Earthshots>, Feb. 1997.
- [62] European Space Agency, *Committee on Earth Observation Satellites: Coordination for the next decade*. United Kingdom: Smith System Engineering Ltd, 1995.
- [63] European Space Agency, "Earth observation home page," <http://earth1.esrin.esa.it/index.html>, Jan. 1998.
- [64] Y. fai Wong, "How Gaussian radial basis functions work," in *Proceedings IJCNN – International Joint Conference on Neural Networks 91*, vol. 2, (Seattle), pp. 133–138, IEEE, July 1991.

- [65] F. Farrokhnia, *Multi-channel filtering techniques for texture segmentation and surface quality inspection*. PhD thesis, Computer Science Department, Michigan State University, 1990.
- [66] J. Feder, *Fractals*. Physics of solids and liquids, New York: Plenum Press, 1988.
- [67] S. E. Fienberg, *The Analysis of Cross-Classified Categorical Data*, vol. Second Edition. MIT Press, 1981.
- [68] R. A. Fisher, *Statistical Methods for Research Workers*. Edinburgh: Oliver and Boyd, 5th ed., 1934.
- [69] J. P. Fitch, *Synthetic Aperture Radar*. Springer-Verlag, 1988.
- [70] I. Fogel and D. Sagi, "Gabor filters as texture discriminator," *Biological Cybernetics*, vol. 61, pp. 103–113, 1989.
- [71] J. M. Francos and A. Z. Meiri, "A unified structural-stochastic model for texture analysis and synthesis," in *Proceedings 5th International Conference on Pattern Recognition*, (Washington), pp. 41–46, 1988.
- [72] R. T. Frankot and R. Chellappa, "Lognormal random-field models and their applications to radar image synthesis," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 25, pp. 195–207, Mar. 1987.
- [73] T. Freeman, "What is imaging radar ?," <http://southport.jpl.nasa.gov/desc/imagingradaru3.html>, Jan. 1996.
- [74] K. Fukunaga and L. D. Hostetler, "The estimation of the gradient of a density function, with applications in pattern recognition," *IEEE Trans. Info. Thy.*, vol. IT-21, pp. 32–40, 1975.
- [75] A. Gagalowicz, S. D. Ma, and C. Tournier-Lasserre, "Third order model for non homogeneous natural textures," in *Proceedings 8th International Conference on Pattern Recognition (ICPR)*, vol. 1, (Paris, France), pp. 409–411, 1986.
- [76] J. Garding, "Properties of fractal intensity surfaces," *Pattern Recognition Letters*, vol. 8, pp. 319–324, Dec. 1988.

- [77] J. R. Garside and C. J. Oliver, "A comparison of clutter texture properties in optical and SAR images," in *1988 International Geoscience and Remote Sensing Symposium (IGARSS88)*, vol. 3, pp. 1249–1255, 1988.
- [78] D. Geman, "Random fields and inverse problems in imaging," in *Lecture Notes in Mathematics*, vol. 1427, pp. 113–193, Springer–Verlag, 1991.
- [79] D. Geman, S. Geman, and C. Graffigne, "Locating texture and object boundaries," in *Pattern Recognition Theory and Applications* (P. A. Devijver and J. Kittler, eds.), New York: Springer–Verlag, 1987.
- [80] D. Geman, S. Geman, C. Graffigne, and P. Dong, "Boundary detection by constrained optimization," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 12, no. 7, pp. 609–628, 1990.
- [81] S. Geman and C. Graffigne, "Markov random field image models and their applications to computer vision," *Proceedings of the International Congress of Mathematicians*, pp. 1496–1517, 1986.
- [82] S. Geman and D. Geman, "Stochastic relaxation, Gibbs distributions, and the Bayesian restoration of images," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 6, no. 6, pp. 721–741, 1984.
- [83] M. A. Georgeson, "Spatial Fourier analysis and human vision," in *Tutorial Essays, A Guide to Recent Advances* (N. S. Sutherland, ed.), vol. 2, ch. 2, Hillsdale, NJ: Lawrence Erlbaum Associates, 1979.
- [84] C. J. Geyer and E. A. Thompson, "Constrained Monte Carlo maximum likelihood for dependent data," *Journal of the Royal Statistical Society, Series B*, vol. 54, pp. 657–699, 1992.
- [85] J. J. Gibson, *The Perception of the Visual World*. Boston, MA: Houghton Mifflin, 1950.
- [86] B. Gidas, "A renormalization group approach to image processing problems," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 11, no. 2, pp. 164–180, 1989.
- [87] J. W. Goodman, "A random walk through the field of speckle," *Optical Engineering*, vol. 25, no. 5, 1986.

- [88] L. A. Goodman, "The multivariate analysis of qualitative data: interactions among multiple classifications," *Journal of the American Statistical Association*, vol. 65, pp. 226–256, Mar. 1970.
- [89] C. Graffigne, *Experiments in texture analysis and segmentation*. PhD thesis, Division of Applied Mathematics, Brown University, 1987.
- [90] P. J. Green, "Discussion: On the statistical analysis of dirty pictures," *Journal Of The Royal Statistical Society*, vol. B-48, pp. 259–302, 1986.
- [91] H. Greenspan, R. Goodman, R. Chellappa, and C. H. Anderson, "Learning texture discrimination rules in multiresolution system," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 16, no. 9, pp. 894–901, 1994.
- [92] G. R. Grimmett, "A theorem about random fields," *Bulletin of the London Mathematical Society*, vol. 5, pp. 81–84, 1973.
- [93] T. D. Guyenne and G. Calabresi, *Monitoring the Earth's Environment. A Pilot Project Campaign on LANDSAT Thematic Mapper Applications (1985–87)*. Noordwijk, Netherlands: European Space Agency Publications Division, 1989.
- [94] G. J. Hahn and S. S. Shapiro, *Statistical Models in Engineering*. John Wiley and Sons, 1967.
- [95] M. Haindl, "Texture synthesis," *CWI Quarterly*, vol. 4, pp. 305–331, 1991.
- [96] J. M. Hammersley and P. Clifford, "Markov fields on finite graphs and lattices." unpublished, 1971.
- [97] J. A. Hanley and B. J. McNeil, "The meaning and use of the area under a receiver operating characteristic (roc) curve," *Radiology*, vol. 143, pp. 29–36, 1982.
- [98] R. M. Haralick, "Statistical and structural approaches to texture," *Proceedings of IEEE*, vol. 67, no. 5, pp. 786–804, 1979.
- [99] R. M. Haralick, "Texture analysis," in *Handbook of pattern recognition and image processing* (T. Y. Young and K.-S. Fu, eds.), ch. 11, pp. 247–279, San Diego: Academic Press, 1986.

- [100] R. M. Haralick, K. Shanmugam, and I. Dinstein, "Textural features for image classification," *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 3, no. 6, pp. 610–621, 1973.
- [101] M. Hassner and J. Sklansky, "The use of Markov random fields as models of texture," *Computer Graphics and Image Processing*, vol. 12, pp. 357–370, 1980.
- [102] J. K. Hawkins, "Textural properties for pattern recognition," in *Picture Processing and Psychopictorics* (B. Lipkin and A. Rosenfeld, eds.), New York: Academic Press, 1969.
- [103] D. J. Heeger and J. R. Bergen, "Pyramid-based texture analysis/synthesis," in *Proceedings ICIP-95: 1995 International Conference on Image Processing*, (Washington, D.C.), pp. 648–651, 1995.
- [104] J. Homer, J. Meagher, R. Paget, and D. Longstaff, "Terrain classification via texture modelling of SAR and SAR coherency images," in *Proceedings of 1997 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'97)*, (Singapore), pp. 2063–2065, Aug. 1997.
- [105] D. Howard, *Markov random fields and image processing*. PhD thesis, Flinders University, Adelaide, 1995.
- [106] R. Hu and M. M. Fahmy, "Texture segmentation based on a hierarchical Markov random field model," *Signal processing*, vol. 26, no. 3, pp. 285–305, 1992.
- [107] A. K. Jain and F. F. D. H. Alman, "Texture analysis of automotive finishes," in *Proceedings of SME Machine Vision Applications Conference*, (Detroit, MI), pp. 1–16, Nov. 1990.
- [108] A. K. Jain and S. Bhattacharjee, "Text segmentation using Gabor filters for automatic document processing," *Machine Vision and Applications*, vol. 5, no. 3, pp. 169–184, 1992.
- [109] A. K. Jain and F. Farrokhnia, "Unsupervised texture segmentation using Gabor filters," *Pattern Recognition*, vol. 24, no. 12, pp. 1167–1186, 1991.
- [110] B. Julesz, "Visual pattern discrimination," *IRE transactions on Information Theory*, vol. 8, pp. 84–92, 1962.

- [111] B. Julesz, "Textons, the elements of texture perception, and their interactions," *Nature*, vol. 290, pp. 91–97, Mar. 1981.
- [112] B. Julesz, "A theory of preattentive texture discrimination based on first-order statistics of textons," *Biological Cybernetics*, vol. 41, no. 2, pp. 131–138, 1981.
- [113] L. N. Kanal, "Markov mesh models," *Computer Graphics and Image Processing*, vol. 12, pp. 371–375, Apr. 1980.
- [114] R. L. Kashyap, "Analysis and synthesis of image pattern by spatial interaction models," in *Progress in Pattern Recognition* (L. N. Kanal and A. Rosenfeld, eds.), pp. 149–186, New York: North-Holland Pub. Co., 1981.
- [115] R. L. Kashyap, "Characterization and estimation of two-dimensional ARMA models," *IEEE Transactions on Information Theory*, vol. 30, pp. 736–745, 1984.
- [116] R. L. Kashyap and R. Chellappa, "Estimation and choice of neighbors in spatial-interaction models of images," *IEEE Transactions on Information Theory*, vol. IT-29, no. 1, pp. 60–72, 1983.
- [117] Z. Kato, J. Zerubia, and M. Berthod, "Unsupervised parallel image classification using a hierarchical Markovian model," in *1995 IEEE 5th International Conference on Computer Vision* (B. Werner, ed.), (Los Alamitos), pp. 169–174, IEEE Computer Society Press, 1995.
- [118] J. M. Keller, R. M. Crownover, and R. Y. Chen, "Characteristics of natural scenes related to the fractal dimension," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 9, pp. 621–627, Sept. 1987.
- [119] J. M. Keller, S. Chen, and R. M. Crownover, "Texture description and segmentation through fractal geometry," *Computer vision, graphic, and image processing*, vol. 45, p. 150, Feb. 1989.
- [120] A. Khotanzad and R. L. Kashyap, "Feature selection for texture recognition based on image synthesis," *IEEE Transactions on Systems, Man and Cybernetics*, vol. 17, pp. 1087–1095, Nov. 1987.
- [121] R. Kindermann and J. L. Snell, *Markov Random Fields and their applications*. American Mathematical Society, 1980.

- [122] S. Kirkpatrick, C. D. Gellatt, J. Vecchi, and M. P. Vecchi, "Optimization by simulated annealing," *Science*, vol. 220, pp. 671–680, 1983.
- [123] K. J. Koehler, "Goodness-of-fit tests for log-linear models in sparse contingency tables," *Journal of the American Statistical Association*, vol. 81, pp. 483–493, June 1986.
- [124] W. L. G. Koontz, P. M. Narendra, and K. Fukunaga, "A graph-theoretic approach to nonparametric cluster analysis," *IEEE Transactions on Computers*, vol. C-25, pp. 936–944, 1976.
- [125] S. Krishnamachari and R. Chellappa, "Multiresolution Gauss-Markov random field models for texture segmentation," *IEEE Transactions on Image Processing*, vol. 6, pp. 251–267, Feb. 1997.
- [126] S. N. Laboratories, "How SAR works," http://www.sandia.gov/RADAR/sar_sub/sar_intro1.html, Jan. 1996.
- [127] G. H. Landeweerd and E. S. Gelsema, "The use of nuclear texture parameters in the automatic analysis of leukocytes," *Pattern Recognition*, vol. 10, no. 2, pp. 57–61, 1978.
- [128] L. L. Lapin, *Probability and Statistics for Modern Engineering*. Boston: PWS-KENT, 1990.
- [129] K. Larntz, "Small-sample comparisons of exact levels for chi-squared goodness-of-fit statistics," *Journal of the American Statistical Association*, vol. 73, pp. 253–263, June 1978.
- [130] K. I. Laws, *Textured image segmentation*. PhD thesis, University of Southern California, 1980.
- [131] J. H. Lee and W. D. Philpot, "A spectral-textural classifier for digital imagery," in *Proceedings International Geoscience and Remote Sensing Symposium*, (Washington, DC), pp. 2005–2008, 1990.
- [132] T. M. Lillesand and R. W. Kiefer, *Remote Sensing and Image Interpretation*. New York: John Wiley and Sons, 1987.
- [133] Y. Linde, A. Buzo, and R. M. Gray, "An algorithm for vector quantizer design," *IEEE Transactions on Communications*, vol. COM-28, pp. 84–95, Jan. 1980.

- [134] M. R. Luetttgen, W. C. Karl, A. S. Willsky, and R. R. Tenny, "Multiscale representation of Markov random fields," *IEEE Transactions on Signal Processing*, vol. 41, no. 12, pp. 3377–3396, 1993.
- [135] A. Lundervold, "Ultrasonic tissue characterisation—a pattern recognition approach," tech. rep., Norwegian Computing Center, Oslo, Norway, 1992.
- [136] J. Malik and P. Perona, "Preattentive texture discrimination with early vision mechanisms," *Journal of the Optical Society of America A*, vol. 7, pp. 923–932, May 1990.
- [137] B. B. Mandelbrot, *The Fractal Geometry of Nature*. New York: W. H. Freeman, 1983.
- [138] B. S. Manjunath and R. Chellappa, "Unsupervised texture segmentation using Markov random field models," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 13, no. 5, pp. 478–482, 1991.
- [139] D. Marr and E. Hildreth, "Theory of edge detection," *Proceedings of the Royal Society B*, vol. 207, pp. 187–217, 1980.
- [140] J. L. Marroquin, S. Mitter, and T. Poggio, "Probabilistic solution of ill-posed problems in computational vision," *Journal of American Statistics Association*, vol. 82, pp. 76–89, 1987.
- [141] C. R. Mehta and N. R. Patel, "Algorithm 643. fexact: A fortran subroutine for fisher's exact test on unordered $r \times c$ contingency tables," *ACM Transactions on Mathematical Software*, vol. 12, pp. 154–161, June 1986.
- [142] N. Metropolis, A. W. Rosenbluth, M. N. Rosenbluth, A. H. Teller, and E. Teller, "Equations of state calculations by fast computing machines," *Journal of Chemical Physics*, vol. 21, pp. 1087–1091, 1953.
- [143] Microwave Radar Division, Electronics and Surveillance Research Laboratory at DSTO, Australia, "Project Ingara," 1997.
- [144] J. W. Modestino and J. Zhang, "A Markov random field model-based approach to image interpretation," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 14, pp. 606–615, June 1992.
- [145] Moody and Darken, "Fast learning in networks of locally-tuned processing units," *Neural Computation*, vol. 1, pp. 281–294, 1989.

- [146] C. Morris, "Central limit theorems for multinomial sums," *The Annals of Statistics*, vol. 3, no. 1, pp. 165–188, 1975.
- [147] A. Mosquera, D. Cabello, and M. J. Carreira, "A fractal-based approach to texture segmentation," *Conference publication*, vol. 354, p. 450, 1992.
- [148] J. Moussouris, "Gibbs and Markov random systems with constraints," *Journal of Statistical Physics*, vol. 10, no. 1, pp. 11–33, 1974.
- [149] R. Navarro and J. Portilla, "Robust method for texture synthesis-by-analysis based on a multiscale Gabor scheme," in *SPIE Electronic Imaging Symposium, Human Vision and Electronic Imaging '96* (B. Rogowitz and J. Allebach, eds.), vol. 2657, (San Jose, California), pp. 86–97, 1996.
- [150] H. C. Nothdurft, "Texton segregation by associated differences in global and local luminance distribution," *Proceedings of the Royal Society B*, vol. 239, pp. 295–320, 1990.
- [151] P. P. Ohanian and R. C. Dubes, "Performance evaluation for four classes of textural features," *Pattern Recognition*, vol. 25, pp. 819–833, Aug. 1992.
- [152] R. Paget and D. Longstaff, "Texture synthesis via a nonparametric Markov random field," in *Proceedings of DICTA-95, Digital Image Computing: Techniques and Applications* (A. Maeder and B. Lovell, eds.), vol. 1, (Brisbane, Australia), pp. 547–552, Australian Pattern Recognition Society, Dec. 1995. <http://www.vision.ee.ethz.ch/~rpaget>.
- [153] R. Paget and D. Longstaff, "A nonparametric multiscale Markov random field model for synthesising natural textures," in *Fourth International Symposium on Signal Processing and its Applications*, vol. 2, (Gold Coast, Australia), pp. 744–747, ISSPA 96, Aug. 1996. <http://www.vision.ee.ethz.ch/~rpaget>.
- [154] R. Paget and D. Longstaff, "Extracting the cliques from a neighbourhood system," *IEE Proceedings Vision, Image and Signal Processing*, vol. 144, pp. 168–170, June 1997. <http://www.vision.ee.ethz.ch/~rpaget>.
- [155] R. Paget and D. Longstaff, "Texture synthesis and unsupervised recognition with a nonparametric multiscale Markov random field model," in *Proceedings of 14th International Conference on Pattern Recognition* (A. K. Jain,

- S. Venkatesh, and B. C. Lovell, eds.), vol. 2, (Brisbane, Australia), pp. 1068–1070, IAPR, Aug. 1998. <http://www.vision.ee.ethz.ch/~rpaget>.
- [156] R. Paget and D. Longstaff, “Texture synthesis via a noncausal nonparametric multiscale Markov random field,” *IEEE Transactions on Image Processing*, vol. 7, pp. 925–931, June 1998. <http://www.vision.ee.ethz.ch/~rpaget>.
- [157] R. Paget, D. Longstaff, and B. Lovell, “Multiprocessor implementation of a texture segmentation scheme for satellite radar images,” in *DICTA-93, Digital Image Computing: Techniques and Applications* (K. K. Fung and A. Ginige, eds.), vol. 1, (Sydney), pp. 203–211, Australian Pattern Recognition Society, Dec. 1993.
- [158] R. Paget, D. Longstaff, and B. Lovell, “Texture classification using non-parametric Markov random fields,” in *Proceedings of the 1997 13th International Conference on Digital Signal Processing*, vol. 1, (Hellas, Santorini, Greece), pp. 67–70, IEEE Signal Processing Society, July 1997. Invited Paper, <http://www.vision.ee.ethz.ch/~rpaget>.
- [159] A. P. Pentland, “Fractal-based description of natural scenes,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 6, pp. 661–674, Nov. 1984.
- [160] A. P. Pentland, “Shading into texture,” *Artificial Intelligence*, vol. 29, pp. 147–170, Aug. 1986.
- [161] D. K. Picard, “Inference for general Ising models,” *Journal of Applied Probability*, vol. 19A, pp. 345–357, 1982.
- [162] D. K. Pickard, “Inference for discrete Markov fields: the simplest nontrivial case,” *Journal of the American Statistical Association*, vol. 82, pp. 90–96, 1987.
- [163] T. Poggio and F. Girosi, “Networks for approximation and learning,” *Proceedings of the IEEE*, vol. 78, pp. 1481–1497, Sept. 1990.
- [164] K. Popat and R. W. Picard, “Novel cluster-based probability model for texture synthesis, classification, and compression,” in *Proceedings SPIE visual Communications and Image Processing*, (Boston), 1993.

- [165] A. Possolo, "Subsampling a random field," in *Spatial Statistics and Imaging* (A. Possolo, ed.), vol. 20, pp. 286–294, IMS Lecture Notes – Monograph Series, 1991.
- [166] W. K. Pratt, O. D. Faugeras, and A. Gagalowicz, "Visual discrimination of stochastic texture fields," *IEEE Transactions on Systems, Man and Cybernetics*, vol. 8, pp. 796–804, Nov. 1978.
- [167] W. H. Press, S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, *Numerical Recipes in C*. Cambridge University Press, 2nd ed., 1992.
- [168] P. P. Raghu, R. Poongodi, and B. Yegnanarayana, "Unsupervised texture classification using vector quantization and deterministic relaxation neural network," *IEEE Transactions on Image Processing*, vol. 6, no. 10, pp. 1376–1387, 1997.
- [169] T. R. C. Read and N. A. C. Cressie, *Goodness-of-fit Statistics for Discrete Multivariate Data*. Springer-Verlag, 1988.
- [170] T. R. Reed and H. Wechsler, "Segmentation of textured images and Gestalt organization using spatial/spatial-frequency representations," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 12, pp. 1–12, Jan. 1990.
- [171] J. A. Richards, *Remote Sensing Digital Image Analysis: An Introduction*. Berlin: Springer-Verlag, 1993.
- [172] W. Richards and A. Polit, "Texture matching," *Kybernetik*, vol. 16, no. 3, pp. 155–162, 1974.
- [173] E. Rignot and R. Chellappa, "Segmentation of polarimetric synthetic aperture radar data," *IEEE Transactions on Image Processing*, vol. 1, no. 3, pp. 281–299, 1992.
- [174] E. Rignot and R. Kwok, "Extraction of textural features in SAR images: Statistical model and sensitivity," in *Proceedings International Geoscience and Remote Sensing Symposium*, (Washington, DC), pp. 1979–1982, 1990.
- [175] B. D. Ripley, *Statistical inference for spatial processes*. Cambridge: University Press, 1988.

- [176] J. Rissanen, "Stochastic complexity," *Journal of the Royal Statistical Society, Series B*, vol. 49, pp. 223–239, 1984.
- [177] G. C. Rota, "On the foundations of combinatorial theory," *Zeitschrift Fur Wahrscheinlichkeitstheorie Und Verwandte Gebiete*, vol. 2, pp. 340–368, 1964.
- [178] A. H. Schistad and A. K. Jain, "Texture analysis in the presence of speckle noise," in *Proceedings IEEE Geoscience and Remote Sensing Symposium*, (Houston, TX), pp. 147–152, May 1992.
- [179] G. Schwarz, "Estimating the dimension of a model," *The Annals of Statistics*, vol. 6, pp. 461–464, 1978.
- [180] D. W. Scott and J. R. Thompson, "Probability density estimation in higher dimensions," in *Computer Science and Statistics: Proceedings of the Fifteenth Symposium on the Interface*, (Amsterdam: North-Holland), pp. 173–179, 1983.
- [181] L. Seymour, *Parameter estimation and model selection in image analysis using Gibbs–Markov random fields*. PhD thesis, The University of North Carolina, Chapel Hill, 1993.
- [182] L. H. Siew, R. M. Hodgson, and E. J. Wood, "Texture measures for carpet wear assessment," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 10, pp. 92–105, Jan. 1988.
- [183] B. W. Silverman, *Density estimation for statistics and data analysis*. London: Chapman and Hall, 1986.
- [184] J. Sklansky, "Image segmentation and feature extraction," *IEEE Transactions on Systems, Man, Cybernetics*, vol. 8, pp. 237–247, Apr. 1978.
- [185] D. M. Smith, "Speckle reduction and segmentation of synthetic aperture radar images," *International Journal of Remote Sensing*, vol. 17, no. 11, pp. 2043–2057, 1996.
- [186] G. Smith, *Image texture analysis using zero crossings information*. PhD thesis, University of Queensland, St Lucia, QLD Australia, 1998, <http://www.cssip.uq.edu.au/~guy/thesis/home.html>.
- [187] G. Smith, "Meastex image texture database and test suite," <http://www.cssip.uq.edu.au/staff/meastex/meastex.html>, Jan. 1998.

- [188] K. R. Smith and M. I. Miller, "A Bayesian approach incorporating Rissanen complexity for learning Markov random field texture models," in *Proceedings ICASSP*, vol. 4, pp. 2317–2320, 1990.
- [189] F. Spitzer, "Markov random fields and Gibbs ensembles," *American Mathematical Monthly*, vol. 78, pp. 142–154, 1971.
- [190] H. Tamura, S. Mori, and T. Yamawaki, "Textural features corresponding to visual perception," *IEEE Transactions on Systems, Man and Cybernetics*, vol. SMC-8, pp. 460–473, June 1978.
- [191] H. Tamura, S. Mori, and Y. Yammawaki, "Textural features corresponding to visual perception," *IEEE Transactions on Systems, Man, Cybernetics*, vol. 8, pp. 460–473, June 1978.
- [192] T. Taxt, P. J. Flynn, and A. K. Jain, "Segmentation of document images," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 11, pp. 1322–1329, Dec. 1989.
- [193] D. Terzopoulos, "Image analysis using multigrid relaxation methods," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 8, no. 2, pp. 129–139, 1986.
- [194] C. W. Therrien, "An estimation-theoretic approach to terrain image segmentation," *Computer Vision, Graphics, and Image Processing*, vol. 22, pp. 313–326, June 1983.
- [195] M. Tuceryan, "Moment based texture segmentation," in *Proceedings of the 11th International Conference on Pattern Recognition*, vol. 3, pp. 45–48, Aug. 1992.
- [196] M. Tuceryan and A. K. Jain, "Texture analysis," in *Handbook of Pattern Recognition and Computer Vision* (C. H. Chen, L. F. Pau, and P. S. P. Wang, eds.), pp. 235–276, Singapore: World Scientific, 1993.
- [197] M. R. Turner, "Texture discrimination by Gabor functions," *Biological Cybernetics*, vol. 55, no. 2–3, pp. 71–82, 1986.
- [198] F. T. Ulaby, R. K. Moore, and A. K. Fung, *Active and Passive Microwave Remote Sensing*. Massachusetts: Addison–Wesley, 1982.

- [199] F. T. Ulaby and M. C. Dobson, *Handbook of Radar Scattering Statistics for Terrain*. Norwood, Mass.: Artech House, 1989.
- [200] M. Unser and M. Eden, "Nonlinear operators for improving texture segmentation based on features extracted by spatial filtering," *IEEE Transactions On Systems, Man, and Cybernet*, vol. 20, p. 804, July 1990.
- [201] L. Van-Gool, P. Dewaele, and A. Oosterlinck, "Texture analysis anno 1983," *Computer Vision, Graphics, and Image Processing*, vol. 29, pp. 336–357, Mar. 1985.
- [202] A. Verbeek and P. M. Kroonenberg, "A survey of algorithms for exact distributions of test statistics in $r \times c$ contingency tables with fixed margins," *Computational Statistics and Data Analysis*, vol. 3, pp. 159–185, 1985.
- [203] Vision and Modeling Group, "Vistex texture." <http://www-white.media.mit.edu/vismod/imagery/VisionTexture/vistex.html>, 1995.
- [204] H. Voorhees and T. Poggio, "Computing texture boundaries in images," *Nature*, vol. 333, pp. 364–367, May 1988.
- [205] H. Wechsler, "Texture analysis – a survey," *Signal Processing*, vol. 2, pp. 271–282, 1980.
- [206] R. Wilson and M. Spann, "Finite prolate spheroidal sequences and their applications II: Image feature description and segmentation," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 10, no. 2, 1988.
- [207] R. Wilson and M. Spann, *Image Segmentation and Uncertainty*. Research Studies Press Ltd, 1988.
- [208] M. Woodroffe, "On model selection and arcsine laws," *Annals of Statistics*, vol. 10, pp. 1182–1194, 1982.
- [209] J. D. Woodruff, T. L. Angtuaco, and T. H. Parmley, *Atlas of Gynecologic pathology*. New York: Raven press, 2nd ed., 1993.
- [210] J. W. Woods, S. Dravida, and R. Mediavilla, "Image estimation using doubly stochastic Gaussian random field models," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 9, pp. 245–253, Mar. 1987.

- [211] S. C. Zhu, Y. Wu, and D. Mumford, “FRAME: filters, random fields, and minimax entropy towards a unified theory for texture modeling,” *Proceedings 1996 IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, pp. 686–693, 1996.
- [212] S. W. Zucker and K. Kant, “Multiple-level representation for texture discrimination,” in *Proceedings IEEE Conference on Pattern Recognition and Image Processing*, (Dallas, TX), pp. 609–614, 1981.