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98 14; Rodriguez
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100 bean races to
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Table 1. Implications of home field advantage and heritability for breeding and adaptation. Combining agroecological ecoregion information and heritability of specific traits may help improve selection efficiency while providing insights into processes driving past selection.

	Heritability
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		Lower	Higher
Home Field Advantage	Larger	<p><i>Processes:</i> High environmental variation among locations, low genetic variation potentially enriched in locally important alleles.</p> <p><i>Implications:</i> Inefficient selection on individuals for phenotypic improvement; testing at these sites may reveal conditionally beneficial alleles.</p>	<p><i>Processes:</i> High environmental variation among locations, high genetic variation potentially enriched in locally important alleles.</p> <p><i>Implications:</i> Efficient identification and selection of specialists that may contain large-effect candidate loci for introgression.</p>
	Smaller	<p><i>Processes:</i> Low environmental variation among locations, low genetic variation potentially enriched in broadly important alleles.</p> <p><i>Implications:</i> Inefficient selection on individual entries for phenotypic improvement, so family based methods are necessary.</p>	<p><i>Processes:</i> Low environmental variation among locations, high genetic variation potentially enriched in broadly important alleles.</p> <p><i>Implications:</i> Efficient selection on individual entries for phenotypic improvement.</p>

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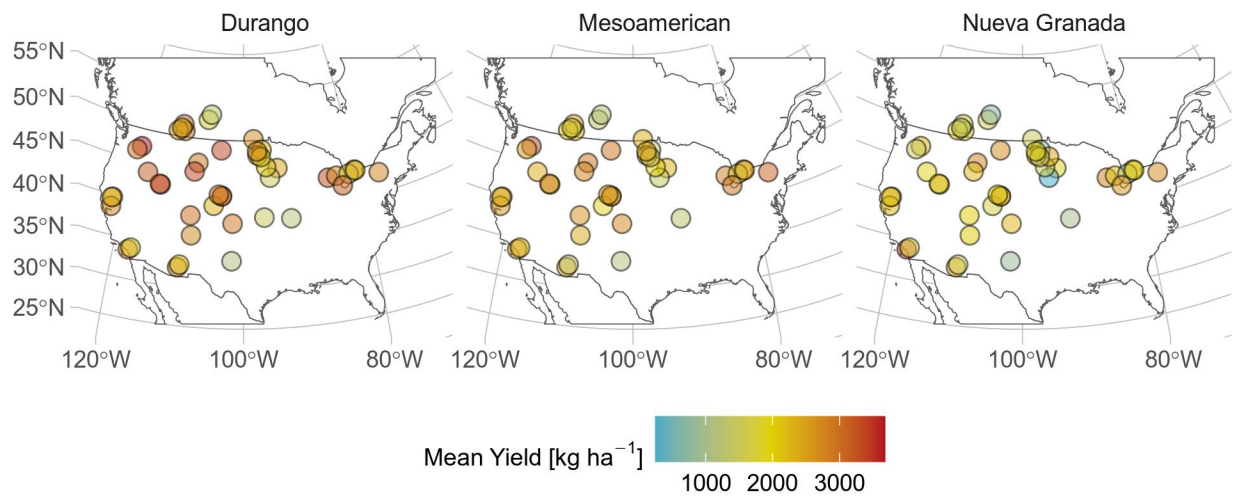
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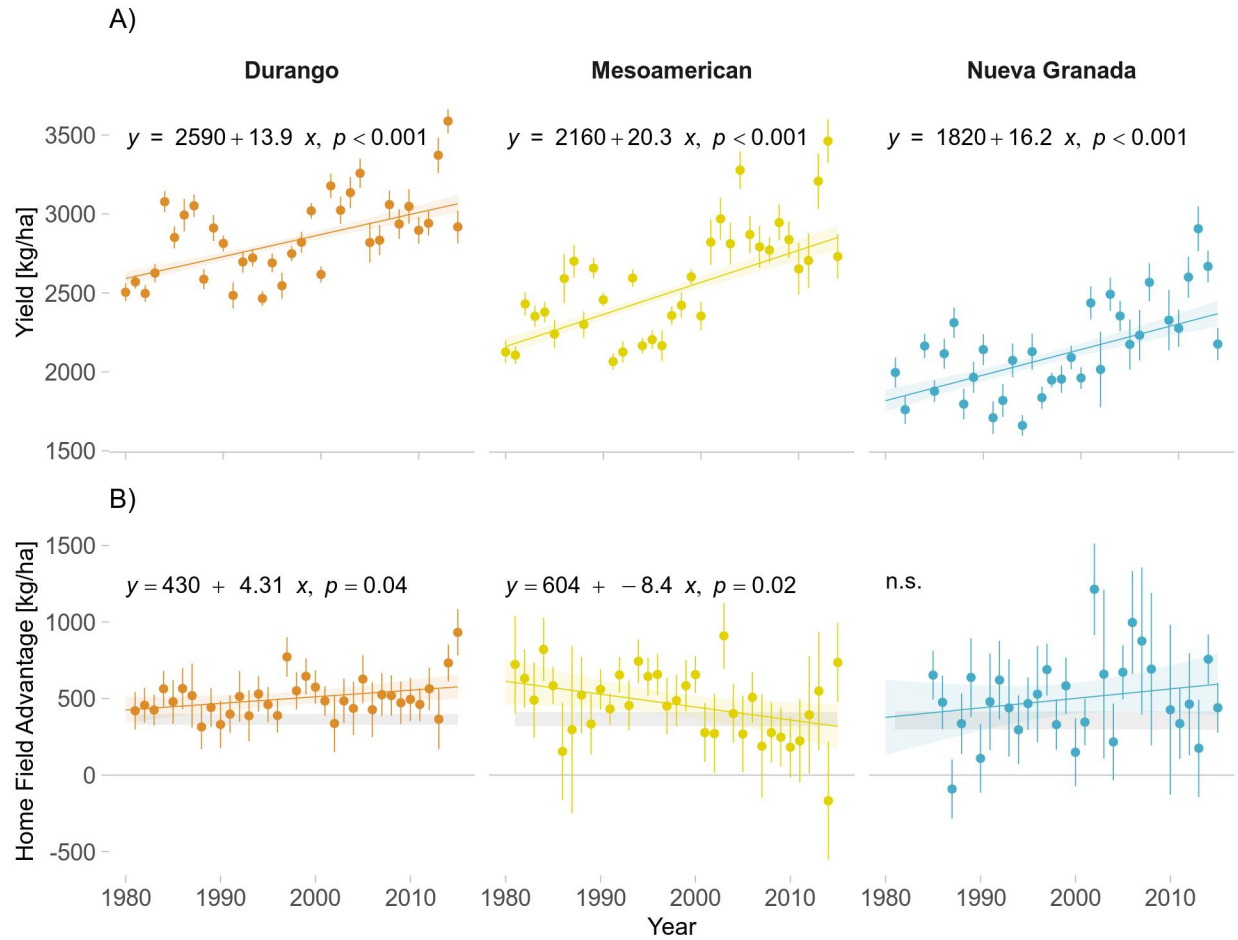
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Table 2
 Partitioning of CDBN Yield Variances

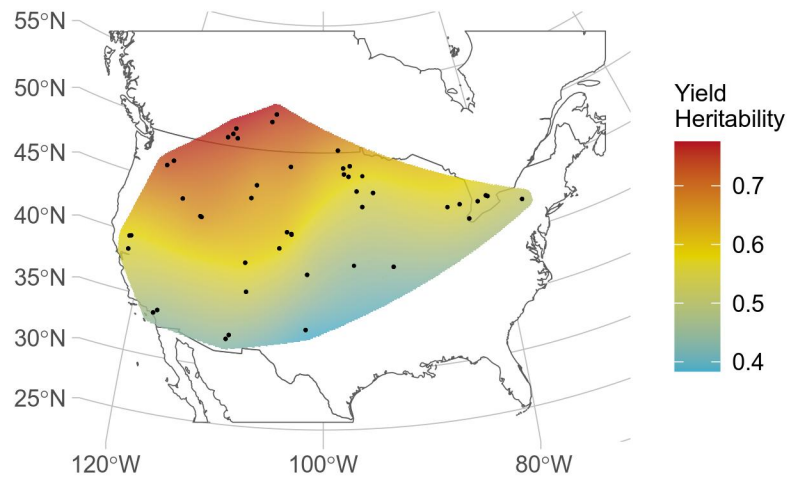
	Race		
	Durango	Mesoamerican	Nueva Granada
Home Site	1.3%	1.3%	1.1%
Residuals	14.1%	15.8%	15.6%
Genotype	3.3%	4.1%	3.2%
Site	33.1%	30.9%	29.0%
Year	2.4%	3.0%	2.5%
Site-Year	45.7%	44.9%	48.7%
Residual Reduction ¹	8.3%	7.7%	6.3%

¹ Proportion of residual variance explained by home site

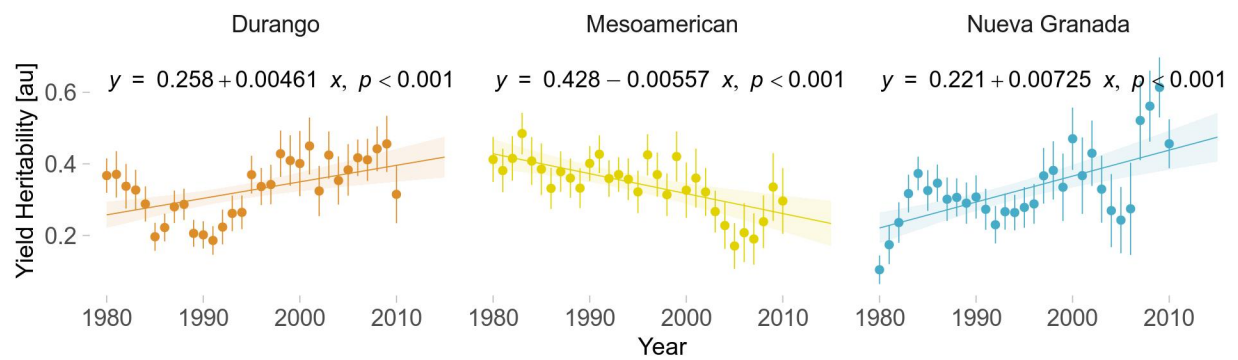
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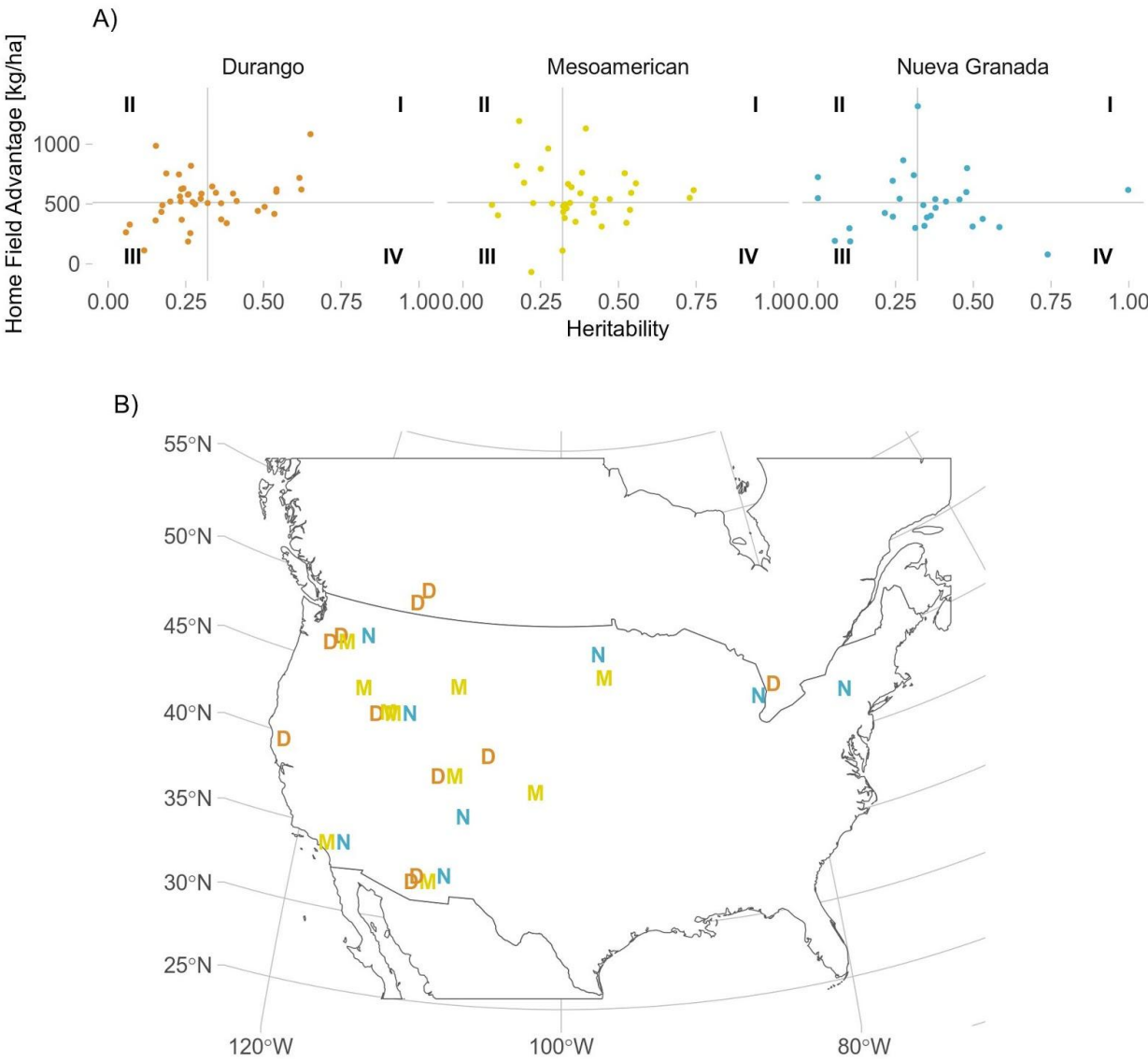
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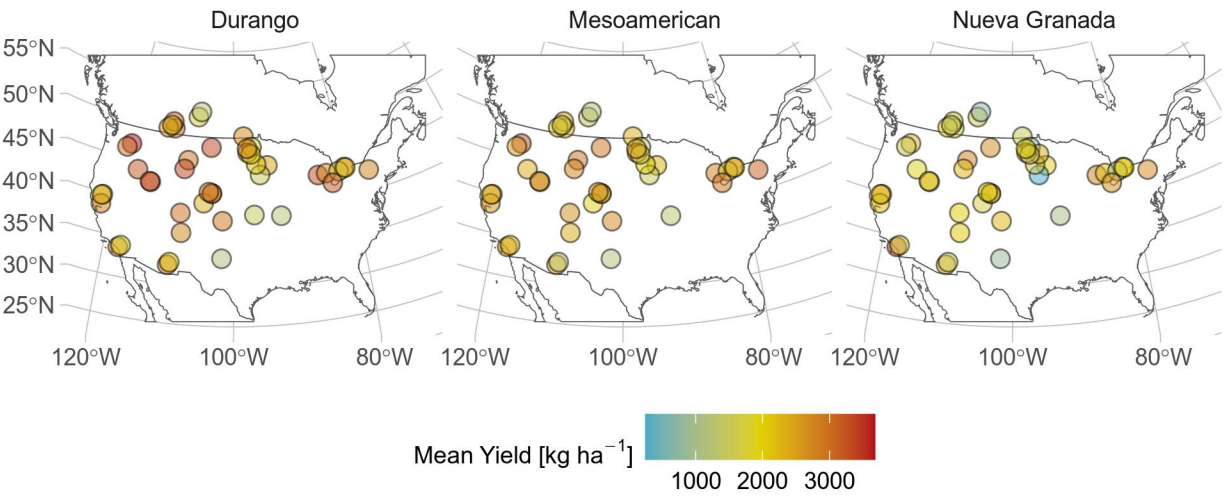
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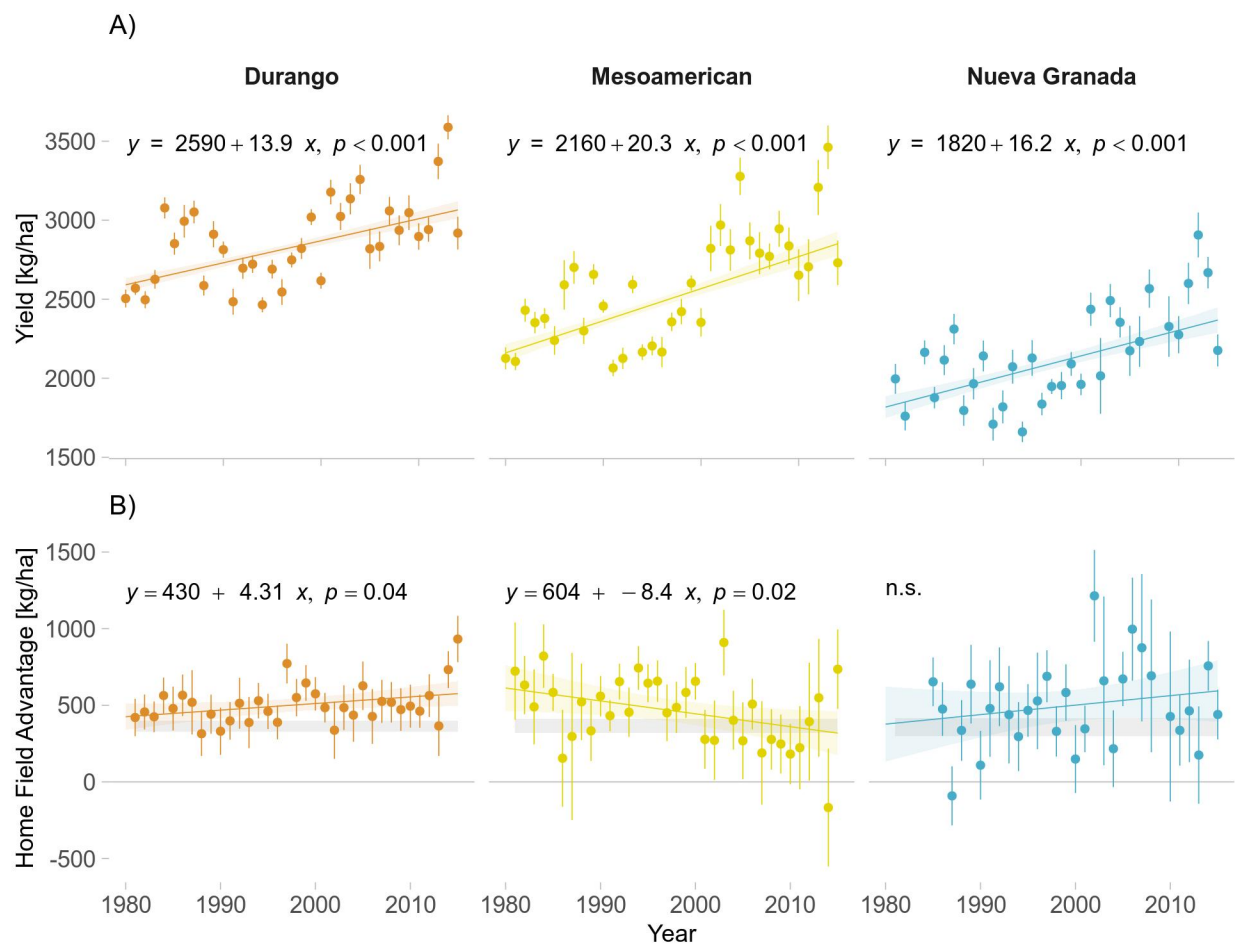
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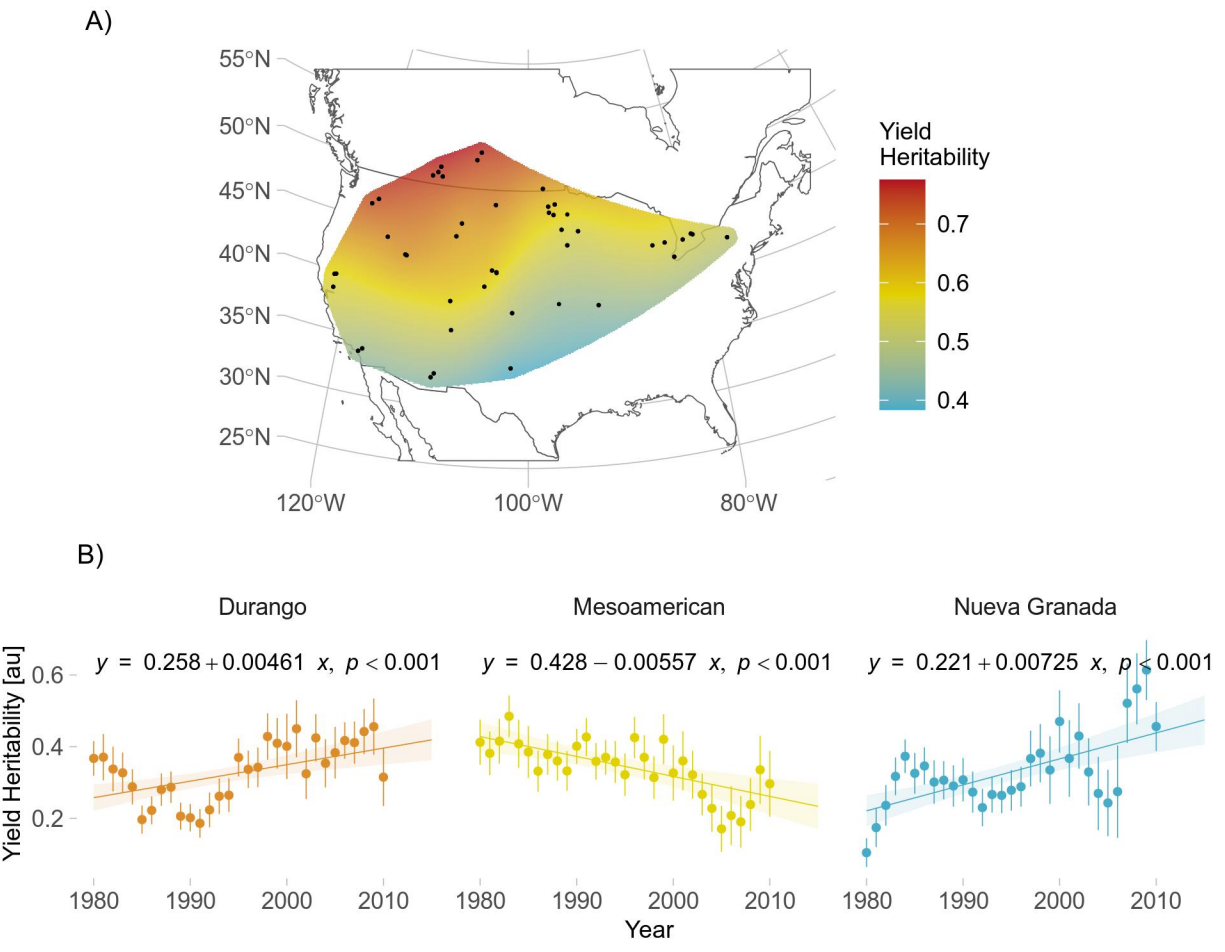
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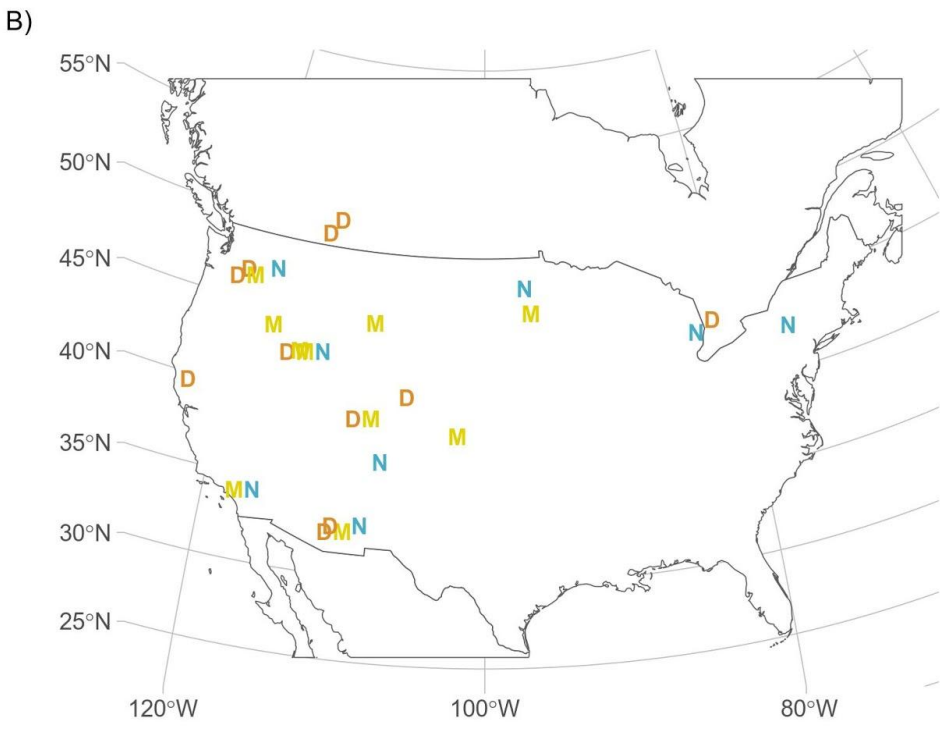
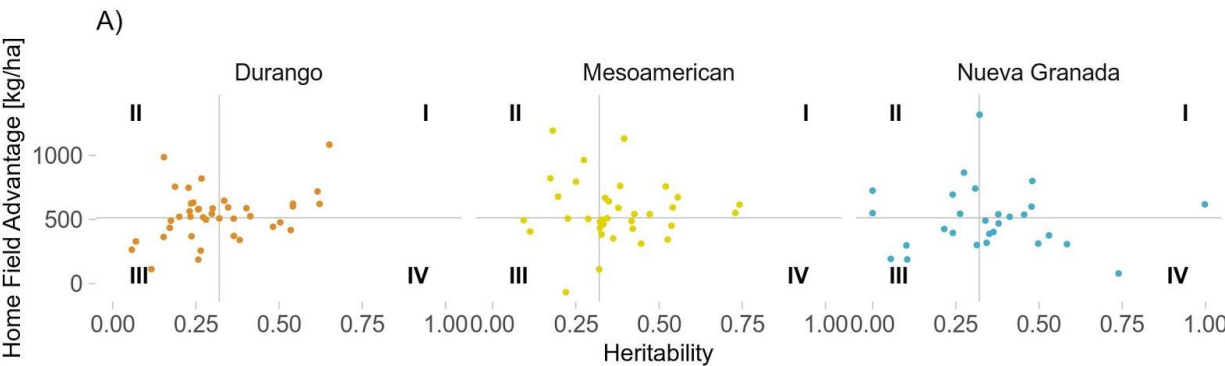


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Table 1. Implications of home field advantage and heritability for breeding and adaptation. Combining agroecological ecoregion information and heritability of specific traits may help improve selection efficiency while providing insights into processes driving past selection.			
		Heritability	
		Lower	Higher
Home Field Advantage	Larger	<i>Processes:</i> High environmental variation among locations, low genetic variation potentially enriched in locally important alleles. <i>Implications:</i> Inefficient selection on individuals for phenotypic improvement; testing at these sites may reveal conditionally beneficial alleles.	<i>Processes:</i> High environmental variation among locations, high genetic variation potentially enriched in locally important alleles. <i>Implications:</i> Efficient identification and selection of specialists that may contain large-effect candidate loci for introgression.
	Smaller	<i>Processes:</i> Low environmental variation among locations, low genetic variation potentially enriched in broadly important alleles. <i>Implications:</i> Inefficient selection on individual entries for phenotypic improvement, so family based methods are necessary.	<i>Processes:</i> Low environmental variation among locations, high genetic variation potentially enriched in broadly important alleles. <i>Implications:</i> Efficient selection on individual entries for phenotypic improvement.

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Table 2

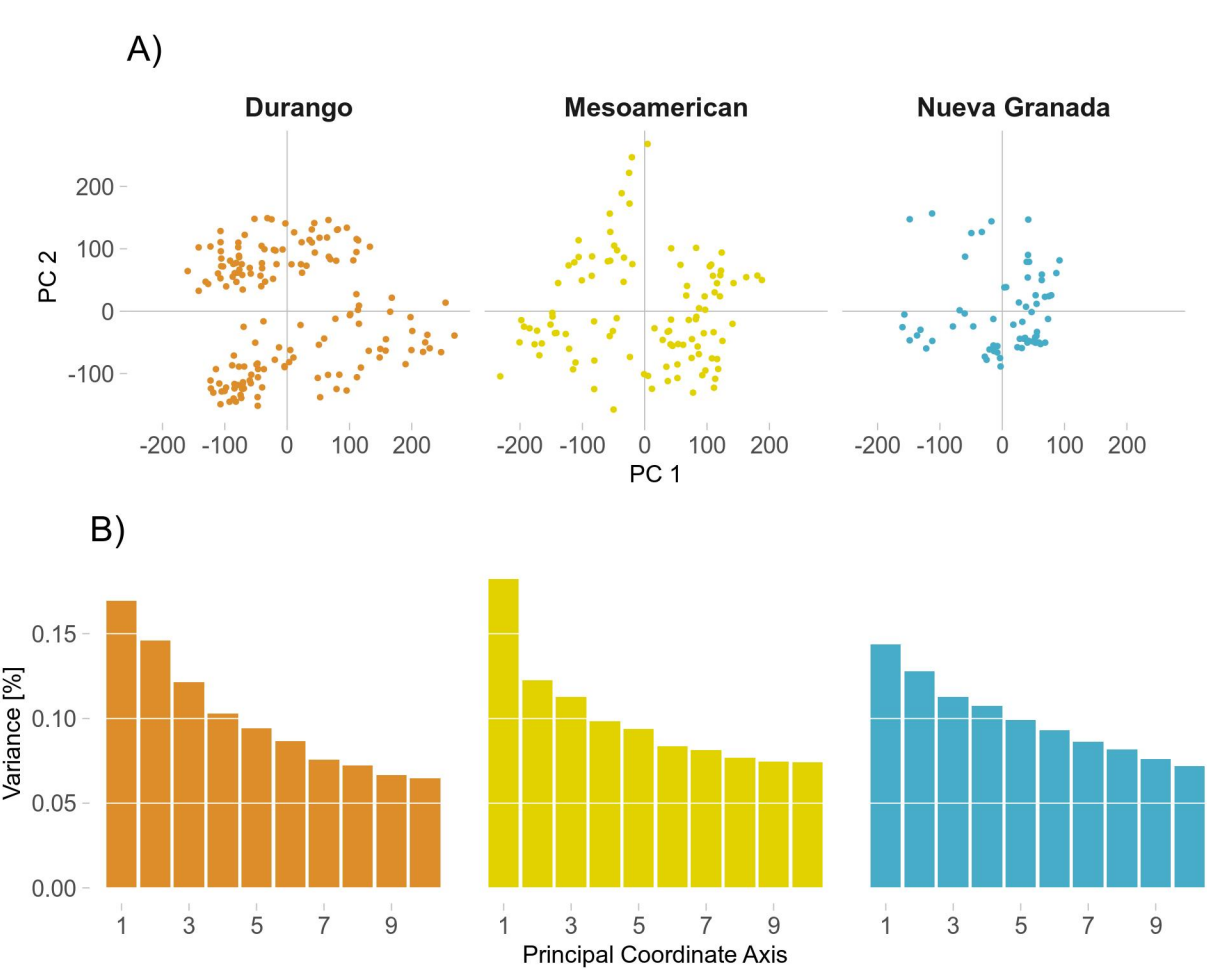
Partitioning of CDBN Yield Variances

	Race		
	Durango	Mesoamerican	Nueva Granada
Home Site	1.3%	1.3%	1.1%
Residuals	14.1%	15.8%	15.6%
Genotype	3.3%	4.1%	3.2%
Site	33.1%	30.9%	29.0%
Year	2.4%	3.0%	2.5%
Site-Year	45.7%	44.9%	48.7%
Residual Reduction [†]	8.3%	7.7%	6.3%

[†] Proportion of residual variance explained by home site

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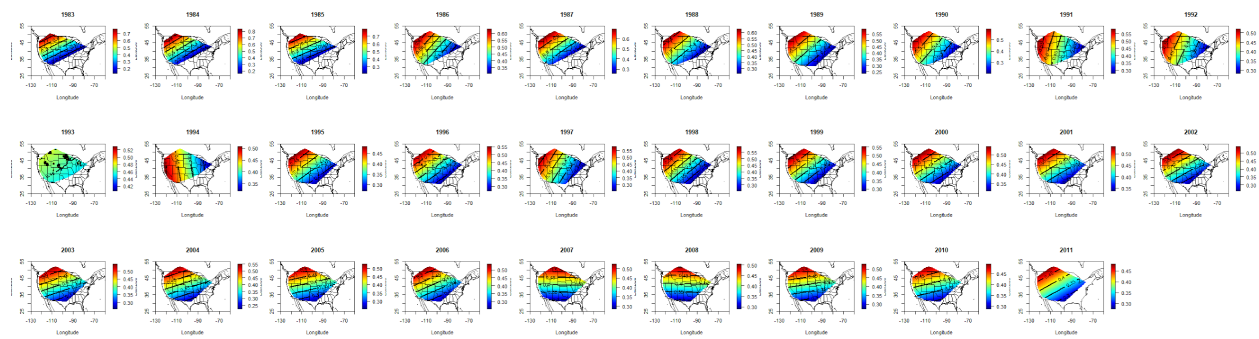


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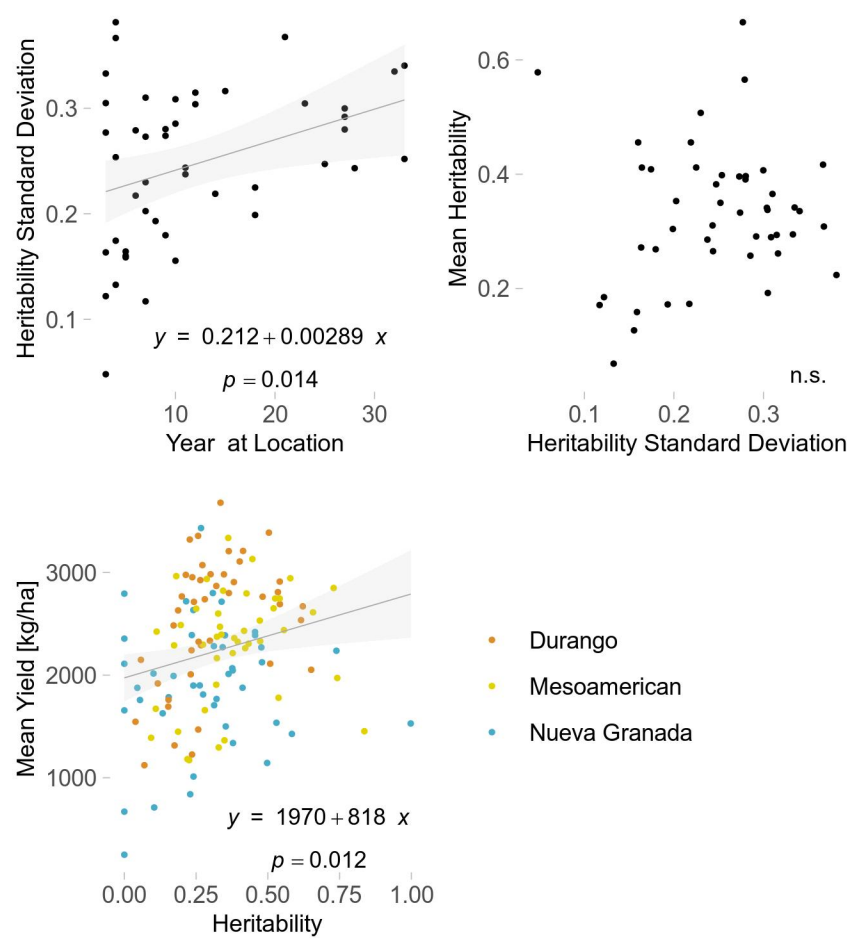
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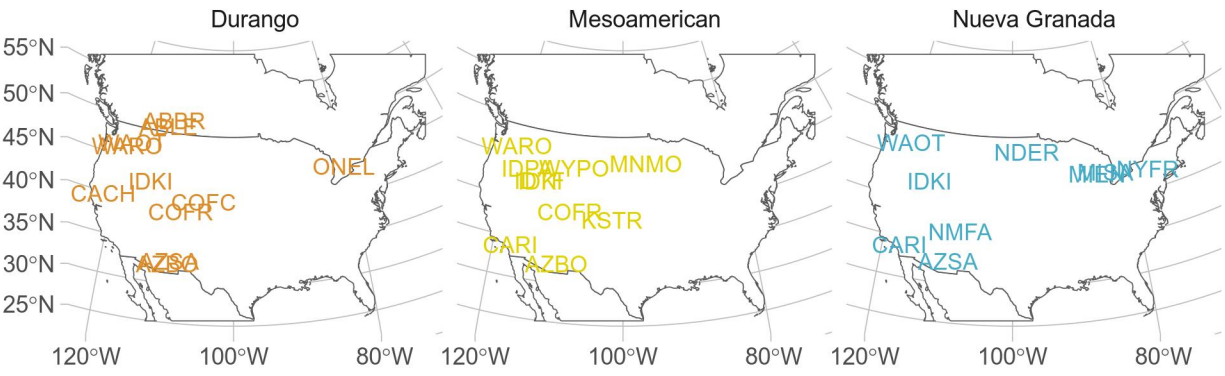
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ANOVA of Yield Across Time

	Sum Sq	Df	F value	Pr(>F)
Year	252,500,000	1	292.70	0.000
Race	1,050,000,000	2	608.26	0.000
Year*Race	6,895,000	2	4.00	0.018
Residuals	11,370,000,000	13174	-	-

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AIC¹ of Competing Home Field Advantage Models

	Durango	Mesoamerican	Nueva Granada
With Home Field	6772	5095	3434
Variety, Site, Year	7323	5421	3599
With Home Field, Kinship	7662	5703	3773
With Kinship	8143	5997	3926

¹Akaike Information Criterion

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Table S3

ANOVA of Home Field Advantage Across Time

	Sum Sq	Df	F value	Pr(>F)
Year	4.755	1	0.00	0.992
Race	36,290	2	0.43	0.654
Year * Race	410,000	2	4.82	0.010
Residuals	3,994,000	94	-	-

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