



*

*

(A) Corojo

(C) Croillo (B) Sumer 48
Habana

(AxB) (BxC)

(AxB)

(. .)

(BXA)

(% . .)

.(AXB)

FULL DIALLEL CROSSES AND ESTIMATION GENETIC PARAMETERS FOR SOME QUALITATIVE CHARACTERS OF TOBACCO HYBRIDS IN GREEN HOUSE

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Abstract

Full diallel crosses conducted to develop tobacco hybrids using three cultivars; Corojo (A), Sumer48 (B) and Croillo (C), during 2004, Hybrid trail carried out in the green house using Randomized Complete Block Design with 3 parents, 6 hybrids and 2 control, Habana and CV. 48. Significant differences were found among parents and hybrids in studied characters except necotin and ash percentages. The crosses (AxB) and (BxC) superior in pH (6.71 & 6.37), while the crosses (AxB) superior in sugar percentage, the reciprocal hybrid (BXA) had highest burn speed (0.101 mm/sec.). Genetic parameters analysis revealed, that average degree of dominance were higher than one, broad sense heritability, also highest, narrow sense heritability were lowest. It was recommended hybridization method in the improvement of pH, burn speed and sugar percentage of tobacco, using best hybrid (AXB).

(A) Corjo

(C) Croillo Sumer48 (B)

(*Nicotiana tabacum* L.)

[]

Full diallel cross

.Griffing

-

Nicotine Alkolid

%

O₂

/

%

Sedative

Nacotic

[] Diaphoretic

Nicotinic acid

/

[]

[]

25x75

[]

(: :)

/

NPK

/

[]

[]

[]

]

[] Fisher

[

[] Tatum Spraque

"

"

]

[] Griffing

[

[] (%)

[]

[] Griffing

" (BxC)
 (AxB)
 () :
 () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C
		Habana	
		LSD 5%	

(%) :
 () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C

" (AxB) .()

(C)

) (AxC) (BxA)
 " (% .
 (CxB)
 .()% .

[]

) :
) () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C
		Habana	
NS		LSD 5%	

(%) :
 () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C

(pH)

" (AxB) (BxC)

[]

(BxA)

"

[] (A)
 (AxB) ()
 .()

() :
 () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C
Habana			
LSD 5%			

(gii^)
 (Rij^)
 (Sij^)

(%) :
 () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C

Sij^						
Rij^	σ Sij^	σ gii^	C	B	A	gii^
.	A
.	B
.	C
			Rij^	Sij^	gii^	
			GCA			
0.06ns			SCA			
0.17*			RCA			
0.21**			E			
0.03			σ gca/σ sca			
0.03			σ gca/σ rca			
0.06			σ gca			
0.005			σ A			
0.01			σ D			
0.14			a ⁻			
5.16			h ² .bs			
80%			h ² .ns			
6%			σ D-r			
0.08			a ⁻ -r			
4.03			h ² .bs-r			
72%			h ² .ns-r			
8%						

** % *
 ns %

(/)

(BxA)
 (AxB)
 (B)

(BxA)

(BxC)

/

() :
() ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C
Habana			
LSD 5%			

(%) :
() ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C

.()

(AxB)

(% .)

" (AxC)

Butaroc []

(BxC)

[]

()

" Habana

) :
) () ()

C	B	A	
.	.	.	A
.	.	.	B
.	.	.	C
Habana			

(gii^)

(Rij^)

(Sij^)

Sij^

Rij^	$\sigma^{\vee} Sij^{\wedge}$	$\sigma^{\vee} gii^{\wedge}$	C	B	A	gii^
.	A
.	B
.	C
			Rij^	Sij^	gii^	
			.	.	.	
			GCA			
			SCA			
			RCA			
			É			
			$\sigma^{\vee} gca/\sigma^{\vee} sca$			
			$\sigma^{\vee} gca/\sigma^{\vee} rca$			
			$\sigma^{\vee} gca$			
			$\sigma^{\vee} A$			
			$\sigma^{\vee} D$			
			a ⁻			
			h ² .bs			
			H ² .ns			
			$\sigma^{\vee} D-r$			
			a ⁻ -r			
			h ² .bs-r			
			h ² .ns-r			

**

%

*

ns %

(CxA)

(AxB)

.()

.[]

26%	h^2_{ns-r}	
	** %	*
		ns %

.	
.	
.	LSD 5%

(B)

(AxB) (BxC)
(% . .)

()

[]

(%) :

() ()

C	B	A	
.	.		A
.	.	.	B
.	.	.	C
.	.		
.	.		

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()

(g_{ii}^{\wedge}) :

(R_{ij}^{\wedge}) (S_{ij}^{\wedge})

(*Nicotiana tobacum*

/ - L.)

(*Nicotiana*

tabacum L.)

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S_{ij}^{\wedge}						
R_{ij}^{\wedge}	$\sigma^{\vee} S_{ij}^{\wedge}$	$\sigma^{\vee} g_{ii}^{\wedge}$	C	B	A	g_{ii}^{\wedge}
.	A
.	B
.	C
			R_{ij}^{\wedge}	S_{ij}^{\wedge}	g_{ii}^{\wedge}	
			.	.	.	
0.43ns			GCA			
1.42**			SCA			
0.17ns			RCA			
0.20			E			
0.03			$\sigma^{\vee} gca / \sigma^{\vee} sca$			
0.00			$\sigma^{\vee} gca / \sigma^{\vee} rca$			
0.03			$\sigma^{\vee} gca$			
0.07			$\sigma^{\vee} A$			
1.22			$\sigma^{\vee} D$			
5.61			a^-			
87%			h^2_{bs}			
5%			h^2_{ns}			
0.01			$\sigma^{\vee} D-r$			
0.00			a^-r			
26%			h^2_{bs-r}			

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