

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03 DOP **Trial ID:** 2732 **Year:** 2005
Personnel: J.G. Lauer, P. J. Flannery, and K. D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS368S **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/1 /05 **pH** 6.4 **OM (%)** 3.1 **P (ppm)** 22 **K (ppm)** 131

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher prior to each DOP

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /14/05
Starter :	9-24-24	150	Each DOP
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A
Herbicide:	Outlook 20 oz/A Hornet 4.0 oz/A	Insecticide: None	
		Hybrid: See Factors	
Irrigation:	none		
Planting Date:	See Factors	Planting Depth: 1.5"	Row Width: 30"
Target Plant Density: 30000 plants per acre		Planting Method: Kinze Plot Planter	
Harvest Date: S: 9/9, 9/21 & 10/5 G: 10/26		Harvest Method: S:NH Plot Chopper G:Massey Ferguson 8XP	

Experimental Design

Design: RCB split plot **Replications:** 3
Plot Size Seeded: 25' x 20' **Experiment Size:** 0.69 A
Harvest Plot Size: S: 22' x 2.5'
G: 22' x 5' **Harvest Plant Density:** S: 30316 plants per acre
G: 32197

Factors/Treatments:

Date of Planting:

April 15, April 29,
 May 10, May 23,
 June 1 & June 15

Hybrids:

Dekalb DKC58-78(YGCB)
 NK Brand N32-L9
 NK Brand N17-R3

Results: Tables C-40 and C-41.

**Table C-40. Planting Date And Hybrid Influence On Corn Grain And Silage Performance
Arlington, WI - 2005.**

Planting Date	Brand	Hybrid	Grain															
			Test				Grower return	Harvest pop	Harvest ear pop	Seeds planted	Plants emerged	Flag leaf height	Silking Date	Early dent	Kernel Milk			Black layer
			Yield bu/A	Moisture %	weight lbs/bu	Lodged %									75%	50%	25%	
	Dekalb	DKC58-78(YGCB)	208	18.3	58	15	328	30987	31482	41184	36160	78	204	241	247	253	262	270
	NK Brand	N32-L9	190	19.2	57	19	298	32472	32736	41184	38462	83	204	241	247	253	260	269
	NK Brand	N17-R3	136	21.0	58	18	210	33792	33924	41184	36284	82	214	245	252	260	270	278
April 15			210	17.4	59	8	334	31020	31218	41184	36482	77	198	236	242	249	256	263
April 29			208	17.2	59	14	332	31218	31548	41184	36597	77	200	238	243	249	255	265
May 10			192	17.4	58	23	305	29502	30294	41184	35987	81	202	240	246	251	259	267
May 23			203	17.8	57	24	322	32208	32538	41184	39897	80	205	241	246	252	260	268
June 01			197	17.9	59	33	311	37554	37620	41184	39666	80	207	239	246	252	259	268
June 15			114	27.6	54	3	156	31680	31878	41184	35360	92	221	256	264	273	284	292
April 15	Dekalb	DKC58-78(YGCB)	218	18.1	58	4	344	30492	30756	41184	35376	77	201	238	244	250	260	268
April 15	NK Brand	N32-L9	202	16.6	59	12	325	31548	31680	41184	37587	78	195	234	240	247	251	259
April 29	Dekalb	DKC58-78(YGCB)	218	17.9	58	10	344	31680	32076	41184	35475	75	202	240	246	253	259	268
April 29	NK Brand	N32-L9	198	16.6	59	18	319	30756	31020	41184	37719	79	197	236	240	245	251	262
May 10	Dekalb	DKC58-78(YGCB)	201	18.3	57	15	316	29832	30756	41184	34749	81	205	244	249	254	265	271
May 10	NK Brand	N32-L9	183	16.5	59	30	294	29172	29832	41184	37224	81	199	235	243	248	252	263
May 23	Dekalb	DKC58-78(YGCB)	196	19.0	57	32	305	31944	32340	41184	39039	80	207	244	249	255	265	272
May 23	NK Brand	N32-L9	210	16.6	58	15	338	32472	32736	41184	40755	81	202	238	244	248	256	263
June 01	NK Brand	N32-L9	210	17.9	57	36	331	37884	37884	41184	40491	83	207	242	248	252	258	268
June 01	NK Brand	N17-R3	183	17.9	61	30	290	37224	37356	41184	38841	76	207	237	244	253	260	268
June 15	NK Brand	N32-L9	138	31.2	52	2	182	33000	33264	41184	36993	96	222	259	268	278	288	297
June 15	NK Brand	N17-R3	89	24.0	56	5	130	30360	30492	41184	33726	88	220	253	260	268	280	288
Mean			187	19.2	58	18	293	32197	32516	41184	37331	81	205	242	248	254	262	271
Probability(%)																		
Date of Planting (D)			0.0	0.0	0.0	11.5	0.0	0.3	0.3	-	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Hybrid (H)			0.1	0.0	0.0	75.3	0.9	27.7	27.8	-	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
D x H			14.5	0.0	93.9	25.1	19.8	66.3	61.1	-	55.8	93.4	1.8	7.3	29.8	0.1	6.6	22.1
LSD (0.10)																		
Date of Planting (D)			16	1.1	1	NS	23	2377	2305	-	1083	5	1	2	1	2	2	3
Hybrid (H)			11	0.5	0	NS	18	NS	NS	-	708	3	0	1	1	1	2	3
D x H			NS	0.9	NS	NS	NS	NS	NS	-	NS	NS	1	2	NS	2	4	NS
CV(%)																		
			7	3	1	69	8	5	5	-	2	4	0	1	1	1	1	1

continued

Table C-40. Planting Date And Hybrid Influence On Corn Grain And Silage Performance
Arlington, WI - 2005.

(continued)

Planting Date	Brand	Hybrid	Whole Plant															
			Dry Matter		Kernel	KMR	SMR	VMR	Harvest		Crude			In Vitro		Milk per		
			yield	Moisture	milk	0-5	0-5	0-10	plants	ears	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			#	#	#	plants/A	ears/A	%	%	%	%	%	%	%	lbs/T	lbs/A		
	Dekalb	DKC58-78(YGCB)	9.4	56.7	63.8	3.2	2.2	5.3	30162	31944	6.8	20.9	43.3	81.4	57.1	34.2	1110	10381
	NK Brand	N32-L9	8.3	52.8	31.7	1.6	1.9	3.5	30624	32032	7.2	21.9	44.7	80.5	56.3	32.7	1138	9177
	NK Brand	N17-R3	6.7	51.5	32.5	1.6	1.6	3.2	29700	30492	8.0	23.4	47.6	79.3	56.5	26.8	1459	9013
April 15			8.9	53.4	41.7	2.1	1.9	4.0	29964	31020	6.9	18.7	39.6	82.9	56.8	38.3	914	8082
April 29			9.4	54.5	41.7	2.1	2.0	4.1	30360	31680	7.0	21.2	43.7	81.1	56.9	33.8	1116	10467
May 10			9.4	54.7	42.5	2.1	2.1	4.2	29832	32340	6.9	21.2	44.0	81.3	57.5	33.6	1145	10633
May 23			8.8	56.3	57.5	2.9	1.9	4.8	31020	32472	6.9	22.3	45.2	80.1	56.0	32.5	1126	9858
June 01			8.2	43.9	18.3	0.9	0.9	1.7	32736	33792	7.3	20.1	41.9	81.3	55.5	37.7	833	7059
June 15			5.7	60.4	53.3	2.7	2.7	5.4	27984	29172	8.3	27.6	53.8	76.9	57.1	17.4	1961	11207
April 15	Dekalb	DKC58-78(YGCB)	9.2	55.5	61.7	3.1	2.1	5.2	29040	30360	6.6	19.0	39.9	82.9	57.1	38.2	924	8442
April 15	NK Brand	N32-L9	8.5	51.4	21.7	1.1	1.7	2.8	30888	31680	7.2	18.4	39.4	82.9	56.6	38.4	904	7722
April 29	Dekalb	DKC58-78(YGCB)	10.0	56.3	61.7	3.1	2.3	5.4	29568	31416	6.8	20.6	43.1	81.4	56.9	34.4	1095	10904
April 29	NK Brand	N32-L9	8.8	52.8	21.7	1.1	1.8	2.9	31152	31944	7.1	21.8	44.3	80.9	56.8	33.2	1137	10030
May 10	Dekalb	DKC58-78(YGCB)	9.7	57.5	61.7	3.1	2.3	5.4	30360	33000	6.9	21.9	45.1	80.9	57.5	31.8	1248	11931
May 10	NK Brand	N32-L9	9.1	51.9	23.3	1.2	1.8	3.0	29304	31680	7.0	20.5	42.8	81.7	57.4	35.5	1042	9336
May 23	Dekalb	DKC58-78(YGCB)	8.8	57.6	70.0	3.5	1.9	5.4	31680	33000	6.8	22.1	45.2	80.5	57.1	32.4	1175	10249
May 23	NK Brand	N32-L9	8.8	55.0	45.0	2.3	1.9	4.2	30360	31944	7.1	22.5	45.2	79.6	54.9	32.6	1076	9467
June 01	NK Brand	N32-L9	8.4	44.7	21.7	1.1	1.2	2.1	33000	34584	7.0	20.6	42.8	81.1	55.8	37.9	805	7164
June 01	NK Brand	N17-R3	8.0	43.1	15.0	0.8	0.7	1.4	32472	33000	7.5	19.5	41.1	81.5	55.2	37.5	862	6955
June 15	NK Brand	N32-L9	6.1	61.0	56.7	2.8	2.9	5.8	29040	30360	8.1	27.9	53.5	76.7	56.5	18.7	1866	11344
June 15	NK Brand	N17-R3	5.4	59.8	50.0	2.5	2.5	5.0	26928	27984	8.4	27.3	54.2	77.1	57.8	16.2	2057	11070
Mean			8.4	53.9	42.5	2.1	2.0	4.1	30316	31746	7.2	21.8	44.7	80.6	56.6	32.2	1183	9551
Probability(%)																		
Date of Planting (D)			6.9	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.3	0.3	1.7	27.9	0.0	0.0	4.0
Hybrid (H)			9.3	0.2	0.0	0.0	6.1	0.0	58.0	38.7	0.4	61.3	81.7	81.5	40.1	54.5	13.4	10.5
D x H			74.8	78.3	55.3	55.3	68.1	45.1	58.3	85.1	37.6	63.1	54.3	77.8	43.0	58.0	43.6	71.4
LSD (0.10)																		
Date of Planting (D)			1	3	5.3	0.3	0.4	0.6	1418	1532	0.3	2.7	4.2	2.2	NS	5.0	220	2147
Hybrid (H)			1	2	7.0	0.4	0.3	0.6	NS	NS	0	NS	1.6	NS	NS	NS	NS	NS
D x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)																		
			9	4	20	20	19	17	7	8	3	7	5	2	2	9	11	14

**Table C-41. Planting Date And Hybrid Influence On Corn Leaf Development
Arlington, WI - 2005.**

Date of Planting	Brand	Hybrid	Observation Day of year day of year	Leaf Development			Plant height inches
				Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
			151	1.7	3.3	4.0	3.7
			165	4.8	7.0	8.0	12.4
			180	7.3	9.4	11.8	30.9
			194	11.6	12.4	14.6	58.5
			208	17.0	17.3	18.7	69.1
			222	16.7	16.4	16.9	83.9
	Dekalb	DKC58-78(YGCB)		10.1	11.2	12.7	42.0
	NK Brand	N32-L9		9.6	11.0	12.8	41.0
	NK Brand	N17-R3		8.9	10.4	11.5	38.7
	Dekalb	DKC58-78(YGCB)	151	1.7	3.2	3.8	4.0
	Dekalb	DKC58-78(YGCB)	165	5.2	7.6	8.5	14.4
	Dekalb	DKC58-78(YGCB)	180	8.8	10.5	13.5	39.6
	Dekalb	DKC58-78(YGCB)	194	13.0	13.6	16.1	67.4
	Dekalb	DKC58-78(YGCB)	208	19.5	19.0	19.5	75.3
	Dekalb	DKC58-78(YGCB)	222	-	-	-	-
	NK Brand	N32-L9	151	1.7	3.4	4.2	3.5
	NK Brand	N32-L9	165	4.9	7.1	8.1	12.1
	NK Brand	N32-L9	180	7.2	9.7	11.9	30.1
	NK Brand	N32-L9	194	11.8	12.3	14.8	59.4
	NK Brand	N32-L9	208	16.6	16.9	19.2	68.9
	NK Brand	N32-L9	222	16.5	16.2	17.0	85.7
	NK Brand	N17-R3	151	-	-	-	-
	NK Brand	N17-R3	165	2.8	4.2	5.0	5.6
	NK Brand	N17-R3	180	4.4	6.3	7.9	16.0
	NK Brand	N17-R3	194	8.0	10.0	11.3	37.8
	NK Brand	N17-R3	208	13.5	14.8	15.8	57.3
	NK Brand	N17-R3	222	16.8	16.7	16.8	82.2
April 15				10.1	11.3	13.8	39.7
April 29				10.0	11.1	12.6	41.1
May 10				9.5	10.7	12.1	40.6
May 23				10.6	12.0	13.5	46.8
June 01				9.0	10.4	11.7	38.4
June 15				8.8	10.3	11.6	40.0
April 15			151	2.0	4.2	4.8	4.1
April 15			165	6.2	8.8	9.7	16.3
April 15			180	9.4	11.2	14.1	40.5
April 15			194	13.9	13.9	16.4	68.5
April 15			208	18.8	18.7	23.9	69.3
April 15			222	-	-	-	-
April 29			151	2.0	3.6	4.2	4.0
April 29			165	5.9	8.4	9.5	15.6
April 29			180	9.0	11.3	14.0	40.3
April 29			194	14.3	13.7	16.5	71.1
April 29			208	18.8	18.4	18.8	74.4
April 29			222	-	-	-	-

continued

Table C-41. Planting Date And Hybrid Influence On Corn Leaf Development
 (continued) **Arlington, WI - 2005.**

Date of Planting	Brand	Hybrid	Observation	Leaf Development			Plant height inches
			Day of year	Leaf collars	Hail adjusters method	Total leaves	
			day of year	no./plant	no./plant	no./plant	
May 10			151	1.1	2.3	3.2	3.1
May 10			165	5.0	7.5	8.4	12.6
May 10			180	8.6	10.8	13.8	38.8
May 10			194	13.4	13.8	16.0	68.8
May 10			208	19.3	19.0	19.3	79.8
May 10			222	-	-	-	-
May 23			151	-	-	-	-
May 23			165	4.0	6.3	7.2	11.7
May 23			180	7.8	10.3	12.8	34.6
May 23			194	11.8	13.0	15.5	64.4
May 23			208	18.6	18.3	18.6	76.7
May 23			222	-	-	-	-
June 01			151	-	-	-	-
June 01			165	2.9	4.1	5.0	5.8
June 01			180	6.2	8.8	10.8	25.0
June 01			194	9.8	11.8	13.5	51.8
June 01			208	17.1	16.8	17.4	70.9
June 01			222	-	-	-	-
June 15			151	-	-	-	-
June 15			165	-	-	-	-
June 15			180	2.7	4.1	5.1	6.4
June 15			194	6.2	8.0	9.8	26.3
June 15			208	9.7	12.5	14.4	43.5
June 15			222	16.7	16.4	16.9	83.9
April 15	Dekalb	DKC58-78(YGCB)		10.1	11.3	12.7	39.8
April 15	NK Brand	N32-L9		10.0	11.3	14.8	39.6
April 29	Dekalb	DKC58-78(YGCB)		10.1	11.0	12.6	41.1
April 29	NK Brand	N32-L9		9.9	11.1	12.5	41.1
May 10	Dekalb	DKC58-78(YGCB)		9.6	10.7	12.3	41.4
May 10	NK Brand	N32-L9		9.4	10.6	12.0	39.8
May 23	Dekalb	DKC58-78(YGCB)		10.5	11.8	13.4	46.9
May 23	NK Brand	N32-L9		10.6	12.2	13.6	46.8
June 01	NK Brand	N32-L9		9.2	10.5	11.9	39.4
June 01	NK Brand	N17-R3		8.8	10.3	11.5	37.4
June 15	NK Brand	N32-L9		8.5	10.0	11.7	40.0
June 15	NK Brand	N17-R3		9.1	10.5	11.5	40.1
April 15	Dekalb	DKC58-78(YGCB)	151	2.0	4.0	4.5	4.6
April 15	Dekalb	DKC58-78(YGCB)	165	5.8	8.2	9.2	16.1
April 15	Dekalb	DKC58-78(YGCB)	180	9.5	11.0	14.0	39.7
April 15	Dekalb	DKC58-78(YGCB)	194	13.7	14.2	16.5	66.0
April 15	Dekalb	DKC58-78(YGCB)	208	19.5	19.3	19.5	72.8
April 15	Dekalb	DKC58-78(YGCB)	222	-	-	-	-
April 15	NK Brand	N32-L9	151	2.0	4.3	5.0	3.5
April 15	NK Brand	N32-L9	165	6.5	9.3	10.2	16.5
April 15	NK Brand	N32-L9	180	9.3	11.3	14.2	41.3
April 15	NK Brand	N32-L9	194	14.2	13.7	16.3	71.0
April 15	NK Brand	N32-L9	208	18.2	18.0	28.3	65.8
April 15	NK Brand	N32-L9	222	-	-	-	-

continued

Table C-41. Planting Date And Hybrid Influence On Corn Leaf Development
(continued) **Arlington, WI - 2005.**

Date of Planting	Brand	Hybrid	Observation Day of year day of year	Leaf Development			Plant height inches
				Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
April 29	Dekalb	DKC58-78(YGCB)	151	2.0	3.5	4.0	4.3
April 29	Dekalb	DKC58-78(YGCB)	165	6.0	8.2	9.3	16.3
April 29	Dekalb	DKC58-78(YGCB)	180	9.2	11.2	13.8	41.8
April 29	Dekalb	DKC58-78(YGCB)	194	14.0	13.5	16.7	69.5
April 29	Dekalb	DKC58-78(YGCB)	208	19.3	18.8	19.3	73.5
April 29	Dekalb	DKC58-78(YGCB)	222	-	-	-	-
April 29	NK Brand	N32-L9	151	2.0	3.7	4.3	3.8
April 29	NK Brand	N32-L9	165	5.8	8.7	9.7	14.8
April 29	NK Brand	N32-L9	180	8.8	11.3	14.2	38.7
April 29	NK Brand	N32-L9	194	14.5	13.8	16.3	72.7
April 29	NK Brand	N32-L9	208	18.2	18.0	18.2	75.3
April 29	NK Brand	N32-L9	222	-	-	-	-
May 10	Dekalb	DKC58-78(YGCB)	151	1.0	2.2	3.0	3.1
May 10	Dekalb	DKC58-78(YGCB)	165	5.0	7.7	8.5	13.2
May 10	Dekalb	DKC58-78(YGCB)	180	8.7	10.2	13.7	42.2
May 10	Dekalb	DKC58-78(YGCB)	194	13.0	13.7	16.0	68.7
May 10	Dekalb	DKC58-78(YGCB)	208	20.2	19.7	20.2	79.7
May 10	Dekalb	DKC58-78(YGCB)	222	-	-	-	-
May 10	NK Brand	N32-L9	151	1.2	2.3	3.3	3.1
May 10	NK Brand	N32-L9	165	5.0	7.3	8.3	12.1
May 10	NK Brand	N32-L9	180	8.5	11.3	13.8	35.3
May 10	NK Brand	N32-L9	194	13.8	13.8	16.0	68.8
May 10	NK Brand	N32-L9	208	18.5	18.3	18.5	79.8
May 10	NK Brand	N32-L9	222	-	-	-	-
May 23	Dekalb	DKC58-78(YGCB)	151	-	-	-	-
May 23	Dekalb	DKC58-78(YGCB)	165	4.0	6.3	7.0	12.1
May 23	Dekalb	DKC58-78(YGCB)	180	7.8	9.5	12.5	34.8
May 23	Dekalb	DKC58-78(YGCB)	194	11.5	13.0	15.3	65.5
May 23	Dekalb	DKC58-78(YGCB)	208	18.8	18.3	18.8	75.0
May 23	Dekalb	DKC58-78(YGCB)	222	-	-	-	-
May 23	NK Brand	N32-L9	151	-	-	-	-
May 23	NK Brand	N32-L9	165	4.0	6.3	7.3	11.2
May 23	NK Brand	N32-L9	180	7.8	11.2	13.0	34.3
May 23	NK Brand	N32-L9	194	12.2	13.0	15.7	63.3
May 23	NK Brand	N32-L9	208	18.3	18.3	18.3	78.3
May 23	NK Brand	N32-L9	222	-	-	-	-
June 01	NK Brand	N32-L9	151	-	-	-	-
June 01	NK Brand	N32-L9	165	3.0	4.0	5.0	6.0
June 01	NK Brand	N32-L9	180	6.3	9.2	11.0	25.0
June 01	NK Brand	N32-L9	194	10.0	12.0	14.0	52.8
June 01	NK Brand	N32-L9	208	17.3	16.8	17.5	73.8
June 01	NK Brand	N32-L9	222	-	-	-	-
June 01	NK Brand	N17-R3	151	-	-	-	-
June 01	NK Brand	N17-R3	165	2.8	4.2	5.0	5.6
June 01	NK Brand	N17-R3	180	6.0	8.5	10.7	25.0
June 01	NK Brand	N17-R3	194	9.5	11.7	13.0	50.8
June 01	NK Brand	N17-R3	208	16.8	16.8	17.3	68.0
June 01	NK Brand	N17-R3	222	-	-	-	-

continued

Table C-41. Planting Date And Hybrid Influence On Corn Leaf Development(continued) **Arlington, WI - 2005.**

Date of Planting	Brand	Hybrid	Observation Day of year day of year	Leaf Development			Plant height inches
				Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
June 15	NK Brand	N32-L9	151	-	-	-	-
June 15	NK Brand	N32-L9	165	-	-	-	-
June 15	NK Brand	N32-L9	180	2.5	4.0	5.0	5.8
June 15	NK Brand	N32-L9	194	5.8	7.7	10.2	28.0
June 15	NK Brand	N32-L9	208	9.2	12.2	14.5	40.5
June 15	NK Brand	N32-L9	222	16.5	16.2	17.0	85.7
June 15	NK Brand	N17-R3	151	-	-	-	-
June 15	NK Brand	N17-R3	165	-	-	-	-
June 15	NK Brand	N17-R3	180	2.8	4.2	5.2	7.0
June 15	NK Brand	N17-R3	194	6.5	8.3	9.5	24.7
June 15	NK Brand	N17-R3	208	10.2	12.8	14.3	46.5
June 15	NK Brand	N17-R3	222	16.8	16.7	16.8	82.2
Mean				9.7	11.0	12.6	41.0
Probability(%)							
Date of Planting (D)				0.0	0.0	0.0	0.0
Hybrid (H)				61.8	46.5	59.4	69.4
D x H				3.9	17.7	37.0	72.0
Sample DOY (S)				0.0	0.0	0.0	0.0
D x S				0.0	0.0	50.2	0.2
H x S				0.0	0.2	99.5	83.1
D x H x S				94.2	37.3	36.7	51.5
LSD(0.10)							
Date of Planting (D)				0.5	0.6	1.2	3.1
Hybrid (H)				NS	NS	NS	NS
D x H				0.3	NS	NS	NS
Sample DOY (S)				0.2	0.2	1.0	1.8
D x S				0.5	0.6	NS	4.5
H x S				0.4	0.5	NS	NS
D x H x S				NS	NS	NS	NS
CV(%)				6	6	20	11