ภาคผนวก

7.1 แสดงผลการวิเคราะห์ข้อมูลทางสถิติของปัจจัยเดี่ยว ได้แก่ ระยะเวลาการขุน อายเข้าฆ่า และน้ำหนักมีชีวิตสุดท้ายเข้าฆ่า ต่อคุณภาพซากโคขุน

```
data a1;
infile'd:/vichit/car1.txt';
input no int time age wt hot cold hotl@@;
infile'd:/vichit/car2.txt';
input no coll fos his loss mar bac area@@;
infile'd:/vichit/car3.txt';
input no colc chu cha che cht bris fore@@;
infile'd:/vichit/car4.txt';
input no ribs shop scap tb hin flk sir@@;
infile'd:/vichit/car5.txt';
input no bote top tip fat bone cutl@@;
run;

data a2;
set a1;
if int="." then delete;
if int>=300 and int<=400;
if time="." then delete;
if age="." then delete;
if wt="." then delete;
phot=(hot/wt)*100;
pcold=(cold/wt)*100;
pfos=((fos*2)/cold)*100;
phis=((his*2)/cold)*100;
ploss=(loss/hot)*100;
plean=((chu+cha+che+cht+bris+fore+ribs+shop+scap+tb+hin
+flk+sir+bote+top+tip)/colc)*100;
pfat=(fat/colc)*100;
pbone=(bone/colc)*100;
pcutl=(cutl/colc)*100;
```

```
run;

data a3;
set a2;
if phot="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model phot=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a4;
set a2;
if pcold="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
```

```
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pcold=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a5;
set a2;
if pfos="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pfos=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a6;
set a2;
if phis="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
```

```
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model phis=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a7;
set a2;
if plean="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model plean=time age wt;
lsmeans time age wt/stderr pdiff;
run;
```

```
data a8;
set a2;
if pbone="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pbone=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a9;
set a2;
if pfat="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
```

```
if wt>550 then wt="3";
proc glm;
class time age wt;
model pfat=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a10;
set a2;
if ploss="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model ploss=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a11;
set a1;
if mar="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
```

```
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model mar=time age wt;
lsmeans time age wt/stderr pdiff;
run;

data a12;
set a1;
if bac="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model bac=time age wt;
lsmeans time age wt/stderr pdiff;
run;
```

```
data a13;
set a1;
if area="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model area=time age wt;
lsmeans time age wt/stderr pdiff;
run;
```

General Linear Model Procedure

Dependent Variable : PHOT

Source	DF	SS	MS	F	Pr>F
Model	6	80.72451179	13.45408530	2.89	0.0128
Error	88	409.65916804	4.65521782		
Corrected total	94	490.38367983			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	30.88222286	15.44111143	3.32	0.0408
Age	2	39.45572366	19.72786183	4.24	0.0175
Wt	2	5.98290546	2.99145273	0.64	0.5284

R-Square = 0.164615 C.V.= 3.622974 Root MSE = 2.157595 PHOT Mean = 59.5531607

PHOT คือ เปอร์เซ็นต์ซากอุ่น

Time คือ ระยะเวลาการขุน

Age คือ อายุเข้าฆ่า

Wt คือ น้ำหนักมีชีวิตสุดท้ายเข้าฆ่า

Dependent Variable : PCOlD

Source	DF	SS	MS	F	Pr>F
Model	6	96.27516195	16.04586032	3.21	0.0068
Error	88	440.34970834	5.00397396		
Corrected total	94	536.62487029			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	34.47917378	17.23958689	3.45	0.3630
Age	2	38.94324593	19.47162296	3.89	0.0240
Wt	2	12.48730310	6.24365155	1.25	0.2922

R-Square = 0.179409 C.V.= 3.868096 Root MSE = 2.236956 PCOLD Mean = 5.78309374

PCOLD คือ เปอร์เซ็นต์ซากเย็น

Dependent Variable : PFOS

Source	DF	SS	MS	F	Pr>F
Model	6	18.86601552	3.14433592	0.91	0.4921
Error	85	293.81158902	3.45660693		
Corrected total	91	312.67760454			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	5.54910254	2.77455127	0.80	0.4515
Age	2	0.94049768	0.47024884	0.14	0.8730
Wt	2	15.63369080	7.81684540	2.26	0.1104

R-Square = 0.060337 C.V.= 3.560255 Root MSE = 1.859195 PFOS Mean=52.2208448

PFOS คือ เปอร์เซ็นต์ซากเสี้ยวหน้า

Dependent Variable : PHIS

Source	DF	SS	MS	F	Pr>F
Model	6	14.47892500	2.4135417	1.28	0.2735
Error	85	159.81035808	1.88012186		
Corrected total	91	174.28928308			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	7.35502934	3.67751467	1.96	0.1477
Age	2	0.17197590	0.08598795	0.05	0.9553
Wt	2	7.42662188	3.71331094	1.98	0.1451

R-Square = 0.083074 C.V.= 2.866571 Root MSE = 1.371175 PHIS Mean=47.8332921

PHIS คือ เปอร์เซ็นต์ซากเสี้ยวหลัง

Dependent Variable : PLOSS

Source	DF	SS	MS	F	Pr>F
Model	6	7.82638078	1.30439680	1.03	0.4132
Error	88	111.75337620	1.26992473		
Corrected total	94	119.57975698			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	0.89481747	0.44740874	0.35	0.7040
Age	2	1.30934783	0.65467391	0.52	0.5990
Wt	2	4.82866913	2.41433456	1.90	0.1555

R-Square = 0.065449 C.V.= 38.89983 Root MSE = 1.126909 PLOSS Mean = 2.89695209

PLOSS คือ เปอร์เซ็นต์น้ำหนักสูญเสียระหว่างการแช่เย็น

Dependent Variable : AREA

Source	DF	SS	MS	F	Pr>F
Model	6	2028.668911	338.111485	54.93	0.0001
Error	88	541.650420	6.155118		
Corrected total	94	2570.319331			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	4.985464	2.492732	0.40	0.6682
Age	2	4.719706	2.357853	0.38	0.6827
Wt	2	1952.083863	976.041932	158.57	0.0001

R-Square = 0.78267 C.V.= 2.925799 Root MSE = 2.480951 AREA Mean = 84.7956842

AREA คือ ขนาดพื้นที่หน้าตัดเนื้อสัน (ตร.ซม.)

Dependent Variable : BAC

Source	DF	SS	MS	F	Pr>F
Model	6	0.12658148	0.02109691	50.37	0.0001
Error	88	0.03686063	0.00041887		
Corrected total	94	0.16344211			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	0.00010605	0.00005303	0.13	0.8813
Age	2	0.00031456	0.00015728	0.38	0.6881
Wt	2	0.12155405	0.06077703	145.10	0.0001

R-Square = 0.774473 C.V.= 2.977491 Root MSE = 0.020466 BAC Mean = 0.68736842

BAC คือ ความหนาไขมันสันหลัง (ซม.)

Dependent Variable : MAR

Source	DF	SS	MS	F	Pr>F
Model	6	2.64708203	0.44568034	1.42	0.2151
Error	88	27.57328639	0.31333280		
Corrected total	94	30.24736842			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	0.97129612	0.48564806	1.55	0.2180
Age	2	0.49834913	0.24917456	0.80	0.4547
Wt	2	1.46041653	0.73020826	2.33	0.1032

R-Square = 0.088407 C.V.= 8.604746 Root MSE = 0.559761 MAR Mean = 6.50526316

MAR คือ ระดับคะแนนไขมันแทรก

Dependent Variable : PLEAN

Source	DF	SS	MS	F	Pr>F
Model	6	49.64843073	8.27473846	1.18	0.3345
Error	40	279.63881267	6.99097032		
Corrected total	46	329.28724340			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	37.83020465	18.91510232	2.71	0.0791
Age	2	11.19649187	5.59824594	0.80	0.4560
Wt	2	0.20079252	0.10039626	0.01	0.9857

R-Square = 0.150775 C.V.= 3.421923 Root MSE = 2.644044 PLEAN Mea n = 77.2677938

PLEAN คือ เปอร์เซ็นต์เนื้อแดงจากการตัดแต่ง

Dependent Variable : PFAT

Source	DF	SS	MS	F	Pr>F
Model	6	18.40335376	3.06722563	0.50	0.8025
Error	45	274.21498994	6.09366644		
Corrected total	51	292.61834369			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	6.63781581	3.31890791	0.54	0.5838
Age	2	2.10731029	1.50365515	0.17	0.8418
Wt	2	15.66638936	7.83319468	1.29	0.2865

R-Square = 0.062892 C.V.= 29.68155 Root MSE = 2.468535 PFAT Mean = 8.31673351

PFAT คือ เปอร์เซ็นต์ไขมัน

Dependent Variable : PBONE

Source	DF	SS	MS	F	Pr>F
Model	6	17.14668025	2.85778004	1.29	0.2795
Error	45	99.41033227	2.20911849		
Corrected total	51	116.55701252			
Source	DF	Type III SS	MS	F	Pr>F
Time	2	4.68921324	2.34460662	1.06	0.3545
Age	2	7.49354978	3.74677489	1.70	0.1949
Wt	2	1.96519534	0.98259767	0.44	0.6437

R-Square = 0.147110 C.V.= 11.65332 Root MSE = 1.486310 PBONE Mean = 12.7543963

PBONE คือ เปอร์เซ็นต์กระดูก

7.2 แสดงผลการวิเคราะห์ข้อมูลทางสถิติของอิทธิพลร่วม ได้แก่ ระยะเวลาการขุน อายเข้าฆ่า และน้ำหนักมีชีวิตสุดท้ายเข้าฆ่า ต่อคุณภาพซากโคขุน

```
data a1;
infile'd:/vichit/car1.txt';
input no int time age wt hot cold hotl@@;
infile'd:/vichit/car2.txt';
input no coll fos his loss mar bac area@@;
infile'd:/vichit/car3.txt';
input no colc chu cha che cht bris fore@@;
infile'd:/vichit/car4.txt';
input no ribs shop scap tb hin flk sir@@;
infile'd:/vichit/car5.txt';
input no bote top tip fat bone cutl@@;
run;

data a2;
set a1;
if int="." then delete;
if int>=300 and int<=400;
if time="." then delete;
if age="." then delete;
if wt="." then delete;
phot=(hot/wt)*100;
pfos=((fos*2)/cold)*100;
phis=((his*2)/cold)*100;
plean=((chu+cha+che+cht+bris+fore+ribs+shop+scap+tb+hin
+flk+sir+bote+top+tip)/colc)*100;
pfat=(fat/colc)*100;
pbone=(bone/colc)*100;
run;

data a3;
set a2;
if phot="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
```

```
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model phot=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a4;
set a2;
if pfos="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pfos=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a5;
set a2;
if phis="." then delete;
```

```
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model phis=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a6;
set a2;
if plean="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model plean=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a7;
```

```
set a2;
if pbone="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pbone=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a8;
set a2;
if pfat="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model pfat=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;
```

```
data a9;
set a1;
if mar="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model mar=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a10;
set a1;
if bac="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model bac=wt time(wt) age(time wt);
```

```
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;

data a11;
set a1;
if area="." then delete;
if int>=300 and int<=400;
if time<300 then time="1";
if time>=300 and time<=500 then time="2";
if time>500 then time="3";
if age<2 then age="1";
if age2 then age="2";
if age>2 then age="3";
if wt<500 then wt="1";
if wt>=500 and wt<=550 then wt="2";
if wt>550 then wt="3";
proc glm;
class time age wt;
model area=wt time(wt) age(time wt);
lsmeans wt time(wt) age(time wt)/stderr pdiff;
run;
```

General Linear Model Procedure

Dependent Variable : PHOT

Source	DF	SS	MS	F	Pr>F
Model	18	184.3804378	10.2433577	2.54	0.0025
Error	76	306.0032420	4.0263584		
Corrected total	94	490.3836798			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	10.3039058	5.1519529	1.28	0.2841
TIME(WT)	5	42.7080327	8.5416065	2.12	0.0719
AGE(TIME*WT)	11	114.9865279	10.4533207	2.60	0.0074

R-Square = 0.375992 C.V.= 3.36391 Root MSE = 2.006579 PHOT Mean = 59.5531607

PHOT คือ เปอร์เซ็นต์ซากอุ่น

Time คือ ระยะเวลาการขุน

Age คือ อายุเข้าฆ่า

Wt คือ น้ำหนักมีชีวิตสุดท้ายเข้าฆ่า

Dependent Variable : PFORS

Source	DF	SS	MS	F	Pr>F
Model	18	46.20173218	2.56676290	0.70	0.7970
Error	73	2.66.47587236	3.65035442		
Corrected total	91	312.67760454			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	3.03658405	1.51829202	0.42	0.6613
TIME(WT)	5	12.64521772	2.52904254	0.69	0.6305
AGE(TIME*WT)	11	19.96920894	1.81538263	0.50	0.8990

R-Square = 0.147762 C.V.= 3.358673 Root MSE = 1.910590 PFORS Mean = 52.2208448

PFORS คือ เปอร์เซ็นต์ซากเสี้ยวหน้า

Dependent Variable : PHIS

Source	DF	SS	MS	F	Pr>F
Model	18	37.72945918	2.09608107	1.12	0.3511
Error	73	136.55982390	1.87068252		
Corrected total	91	174.28928308			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	5.73996720	2.86998360	1.53	0.2225
TIME(WT)	5	7.51404172	1.50280834	0.80	0.5509
AGE(TIME*WT)	11	21.36172401	1.94197491	1.04	0.4229

R-Square = 0.216476 C.V.= 2.859366 Root MSE = 1.367729 PHIS Mean = 47.8332921

PHIS คือ เปอร์เซ็นต์ซากเสี้ยวหลัง

Dependent Variable : AREA

Source	DF	SS	MS	F	Pr>F
Model	18	2131.402260	118.411237	20.50	0.0001
Error	76	438.917070	5.775225		
Corrected total	94	2570.319331			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	1517.664399	758.832200	131.39	0.0001
TIME(WT)	5	45.648678	9.129736	1.58	0.1756
AGE(TIME*WT)	11	53.549865	4.868170	0.84	0.5984

R-Square = 0.82936 C.V.= 2.834071 Root MSE = 2.403170 AREA Mean = 84.7956842

AREA คือ ขนาดพื้นที่หน้าตัดเนื้อสัน (ตร.ซม.)

Dependent Variable : BAC

Source	DF	SS	MS	F	Pr>F
Model	18	0.13317155	0.00739842	18.58	0.0001
Error	76	0.03027056	0.00039830		
Corrected total	94	0.16344211			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	0.09554895	0.04777148	119.94	0.0001
TIME(WT)	5	0.00305144	0.00061028	1.53	0.1899
AGE(TIME*WT)	11	0.00330513	0.00030047	0.75	0.6833

R-Square = 0.814793 C.V.= 2.903446 Root MSE = 0.019957 BAC Mean = 0.68736842

BAC คือ ความหนาไขมันสันหลัง (ซม.)

Dependent Variable : MAR

Source	DF	SS	MS	F	Pr>F
Model	18	5.07653509	0.28202973	0.85	0.6357
Error	76	25.17083333	0.33119518		
Corrected total	94	30.24736842			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	0.65992066	0.32996033	1.00	0.3740
TIME(WT)	5	1.81561047	0.36312209	1.10	0.3694
AGE(TIME*WT)	11	2.74299242	0.24936295	0.75	0.6847
R-Square = 0.167834		C.V.= 8.846615	Root MSE = 0.575496		MAR Mean = 6.50526316

MAR คือ ระดับคะแนนไขมันแทรก

Dependent Variable : PLEAN

Source	DF	SS	MS	F	Pr>F
Model	16	147.9339556	9.2458722	1.53	0.1534
Error	30	181.3532878	6.0451096		
Corrected total	46	329.2872434			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	8.5535605	4.2767803	0.71	0.5009
TIME(WT)	4	42.53707	10.6342691	1.76	0.1632
AGE(TIME*WT)	10	100.3236689	10.0323669	1.66	0.1375
R-Square = 0.449255		C.V.= 3.182025	Root MSE = 2.458680		PLEN Mean = 77.2677938

PLEN คือ ปริมาณเนื้อแดงจากการตัดแต่ง

Dependent Variable : FAT

Source	DF	SS	MS	F	Pr>F
Model	16	128.3369695	8.0210606	1.71	0.0916
Error	35	164.2813741	4.6937535		
Corrected total	51	292.6183437			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	2.67288713	1.33644357	0.28	0.7539
TIME(WT)	4	31.03030086	7.75757522	1.65	0.1831
AGE(TIME*WT)	10	83.23028972	8.32302897	1.77	0.1029
R-Square = 0.438581		C.V.= 26.04998	Root MSE = 2.166507		FAT Mean = 8.31673351

FAT คือ เปอร์เซ็นต์ไขมัน

Dependent Variable : BONE

Source	DF	SS	MS	F	Pr>F
Model	16	37.42833211	2.33927076	1.03	0.4473
Error	35	79.12868041	2.26081944		
Corrected total	51	116.55701252			
Source	DF	Type III SS	MS	F	Pr>F
WT	2	4.54146787	2.27073393	1.00	0.3766
TIME(WT)	4	12.14043861	3.03510965	1.34	0.2727
AGE(TIME*WT)	10	18.09262200	1.80926220	0.80	0.6293

R-Square = 0.321116 C.V.= 11.78889 Root MSE = 1.503602 BONE Mean = 12.7543963

BONE คือเปอร์เซ็นต์กระดูก

7.3 แสดงผลการวิเคราะห์ข้อมูลทางสถิติอิทธิพลของน้ำหนักเริ่มขุน (น้อยกว่า 300 กิโลกรัม และมากกว่า 400 กิโลกรัม) ต่อคุณภาพซากโคขุน

```
data a1;
infile'd:/vichit/ttest1.txt';
input no$ phot pcold pfore phis ploss@@;
infile'd:/vichit/ttest2.txt';
input no$ mar bac area@@;
run;

data a2;
set a1;
proc ttest;
class no;
var phot;
run;

data a3;
set a1;
proc ttest;
class no;
var pcold;
run;

data a4;
```

```
set a1;
proc ttest;
class no;
var pfore;
run;

data a5;
set a1;
proc ttest;
class no;
var phis;
run;

data a6;
set a1;
proc ttest;
class no;
var ploss;
run;

data a7;
set a1;
proc ttest;
class no;
var mar;
run;

data a8;
set a1;
proc ttest;
class no;
var bac;
run;

data a9;
set a1;
```

```
proc ttest;
class no;
var area;
run;
```

TTEST PROCEDURE

Variable : PHOT

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	58.95492063	2.21214963	0.19707395	54.00000000	65.12000000
>400	95	59.49768421	2.14935639	0.22051931	53.21000000	64.75000000
Variance	T	DF	Prob>|T|			
Unequal	-1.8352	205.5	0.0679			
Equal	-.8278	219.0	0.0689			

For H0 : Variances are equal, F'= 1.06 DF= (125,94) Prob>F'= 0.7733

PHOT คือ เปอร์เซ็นต์ซากอุ่น

<300 คือ น้ำหนักขึ้นทะเบียนโคขุนน้อยกว่า 300 กิโลกรัม

>400 คือ น้ำหนักขึ้นทะเบียนโคขุนมากกว่า 400 กิโลกรัม

Variable : PCOLD

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	57.13960317	2.25141783	0.20057224	52.08000000	63.65000000
>400	95	57.84894737	2.16723595	0.22235372	51.01000000	63.50000000
Variance	T	DF	Prob>|T|			
Unequal	-2.3688	206.4	0.0188			
Equal	2.3561	219.0	0.1930			

For H0 : Variances are equal, F'= 1.08 DF= (125,49) Prob>F'= 0.7010

PCOLD คือ เปอร์เซ็นต์ซากเย็น

Variable : PFORE

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	123	52.51861789	1.68801529	0.15220321	47.39000000	59.44000000
>400	89	52.28067416	1.41549124	0.15004177	48.63000000	55.76000000
Variance	T	DF	Prob>|T|			
Unequal	1.1133	205.4	0.2669			
Equal	1.0825	210.0	0.2803			

For H0 : Variances are equal, F'= 1.42 DF=(122,88) Prob>F'=0.0811

PFORE คือ เปอร์เซ็นต์ซากเสี้ยวหน้า

Variable : PHIS

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	123	47.53585366	1.91847016	0.17298263	33.29000000	52.87000000
>400	89	47.79505618	1.58705210	0.16822719	43.45000000	52.01000000
Variance	T	DF	Prob>|T|			
Unequal	-1.0742	206.2	0.2840			
Equal	-1.0423	210.0	0.2985			

For H0 : Variances are equal, F'=1.46 DF=(122,88) Prob>F'=0.0604

PHIS คือ เปอร์เซ็นต์ซากเสี้ยวหลัง

Variable : PLOSS

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	3.07746032	1.29134778	0.11504240	1.41000000	11.73000000
>400	95	2.77305263	0.64253334	0.06592253	1.51000000	4.810000000
Variance	T	DF	Prob>|T|			
Unequal	2.2958	192.9	0.0228			
Equal	2.1084	219.0	0.0361			

For H0 : Variances are equal, F'= 4.04 DF=(125,94) Prob>F'=0.0000

PLOSS คือ เปอร์เซ็นต์น้ำหนักสูญเสียระหว่างการแช่เย็น

Variable : AREA

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	83.12888889	5.43713443	0.48437843	66.12000000	98.78000000
>400	95	88.75294737	6.74064062	0.69157514	71.84000000	108.5800000
Variance	T	DF	Prob>|T|			
Unequal	-6.6609	176.8	0.0001			
Equal	-6.8627	219.0	0000			

For H0 : Variances are equal, F'= 1.54 DF=(94.125) Prob>F'=0.0248

AREA คือ ขนาดพื้นที่หน้าตัดเนื้อสัน (ตร.ซม.)

Variable :BAC

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	0.67388889	0.04337690	0.00386432	0.54000000	0.80000000
>400	95	0.71757895	0.05549997	0.000569418	0.58000000	0.88000000
Variance	T	DF	Prob>|T|			
Unequal	-6.3488	172.9	0.0001			
Equal	-6.5688	219.0	0.0000			

For H0 : Variances are equal, F'= 1.64 DF=(94,125) Prob>F'= 0.0101

BAC คือ ความหนาไขมันสันหลัง (ซม.)

Variable : MAR

NO	N	Mean	Std Dev	Std Error	Minimum	Maximum
<300	126	6.42063492	0.68822292	0.06131177	5.00000000	7.50000000
>400	95	6.48947368	0.60573038	0.06214993	5.00000000	8.00000000
Variance	T	DF	Prob>|T|			
Unequal	0-0.7885	213.8	0.4313			
Equal	-0.7745	219.0	0.4394			

For H0 : Variances are equal, F'=1.29 DF=(125,94) Prob>F'=0.1933

MAR คือ ระดับคะแนนไขมันแทรก

7.4 แสดงผลการวิเคราะห์ข้อมูลทางสถิติอิทธิพลของน้ำหนักซากเย็นต่อเปอร์เซ็นต์ชิ้นส่วนตัดแต่งซากโคขุน

7.4.1 อิทธิพลของน้ำหนักซากเย็นต่อเปอร์เซ็นต์ชิ้นส่วนตัดแต่งซากโคขุน (n=237)

```
data a1;
infile'd:/vichit/car1.txt';
input no int time age wt hot cold hotl@@;
infile'd:/vichit/car2.txt';
input no coll fos his loss mar bac area@@;
infile'd:/vichit/car3.txt';
input no colc chu cha che cht bris fore@@;
infile'd:/vichit/car4.txt';
input no ribs shop scap tb hin flk sir@@;
infile'd:/vichit/car5.txt';
input no bote top tip fat bone cutl@@;
run;

data a2;
set a1;
if colc="." then delete;
pchu=(chu/colc)*100;
pcha=(cha/colc)*100;
pche=(che/colc)*100;
pcht=(cht/colc)*100;
pbris=(bris/colc)*100;
pfore=(fore/colc)*100;
pribs=(ribs/colc)*100;
pshop=(shop/colc)*100;
pscap=(scap/colc)*100;
ptb=(tb/colc)*100;
phin=(hin/colc)*100;
pflk=(flk/colc)*100;
psir=(sir/colc)*100;
pbote=(bote/colc)*100;
ptop=(top/colc)*100;
ptip=(tip/colc)*100;
pfat=(fat/colc)*100;
```

```
pbone=(bone/colc)*100;
pcutl=(cutl/colc)*100;
plean=pchu+pcha+pche+pcht+pbris+pfore
        +pribs+pshop+pscap+ptb+phin+pflk
        +psir+pbote+ptop+ptip+pcutl;
proc means mean std;
var pchu pcha pche pcht pbris pfore
    pribs pshop pscap ptb phin pflk
    psir pbote ptop ptip pfat pbone pcutl plean;
run;

data a3;
set a2;
if colc="." then delete;
if  pchu ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pchu=colc;
lsmeans colc/stderr pdiff;
run;

data a4;
set a2;
if colc="." then delete;
if  pcha ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pcha=colc;
lsmeans colc/stderr pdiff;
run;
```

```
data a5;
set a2;
if colc="." then delete;
if  pche ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pche=colc;
lsmeans colc/stderr pdiff;
run;

data a6;
set a2;
if colc="." then delete;
if  pcht ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pcht=colc;
lsmeans colc/stderr pdiff;
run;

data a7;
set a2;
if colc="." then delete;
if  pbris ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
```

```
model pbris=colc;
lsmeans colc/stderr pdiff;
run;

data a8;
set a2;
if colc="." then delete;
if  pfore ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pfore=colc;
lsmeans colc/stderr pdiff;
run;

data a9;
set a2;
if colc="." then delete;
if  pribs ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pribs=colc;
lsmeans colc/stderr pdiff;
run;

data a10;
set a2;
if colc="." then delete;
if  pshop ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
```

```
if colc>155.00 then colc="3";
proc glm;
class colc;
model pshop=colc;
lsmeans colc/stderr pdiff;
run;

data a11;
set a2;
if colc="." then delete;
if  pscap="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pscap=colc;
lsmeans colc/stderr pdiff;
run;

data a12;
set a2;
if colc="." then delete;
if  ptb ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model ptb=colc;
lsmeans colc/stderr pdiff;
run;

data a13;
set a2;
if colc="." then delete;
```

```
if  phin ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model phin=colc;
lsmeans colc/stderr pdiff;
run;

data a14;
set a2;
if colc="." then delete;
if  pflk ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pflk=colc;
lsmeans colc/stderr pdiff;
run;

data a15;
set a2;
if colc="." then delete;
if  psir="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model psir=colc;
lsmeans colc/stderr pdiff;
run;
```

```
data a16;
set a2;
if colc="." then delete;
if  pbote="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pbote=colc;
lsmeans colc/stderr pdiff;
run;

data a17;
set a2;
if colc="." then delete;
if  ptop ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model ptop=colc;
lsmeans colc/stderr pdiff;
run;

data a18;
set a2;
if colc="." then delete;
if ptip ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model ptip=colc;
```

```
lsmeans colc/stderr pdiff;
run;

data a19;
set a2;
if colc="." then delete;
if  pfat ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pfat=colc;
lsmeans colc/stderr pdiff;
run;

data a20;
set a2;
if colc="." then delete;
if  pbone ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pbone=colc;
lsmeans colc/stderr pdiff;
run;

data a21;
set a2;
if colc="." then delete;
if  pcutl ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
```

```
proc glm;
class colc;
model pcutl=colc;
lsmeans colc/stderr pdiff;
run;

data a22;
set a2;
if colc="." then delete;
if  plean ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model plean=colc;
lsmeans colc/stderr pdiff;
run;
```

General Linear Model Procedure

Dependent Variable : PCHU

Source	DF	SS	MS	F	Pr>F
Model	2	21.34148822	10.67074411	10.66	0.0001
Error	234	234.34213926	1.00146213		
Corrected total	236	255.68362748			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	21.34148822		10.66	0.0001

R-Square = 0.083468 C.V.= 15.79572 Root MSE = 1.000731 PCHU Mean = 6.33545374

PCHU คือเปอร์เซ็นต์ไหล่ (Chuck)

Colc คือ น้ำหนักซากเย็นซีกซ้าย (กก.)

Dependent Variable : PCHT

Source	DF	SS	MS	F	Pr>F
Model	2	0.02813745	0.01406872	0.62	0.5402
Error	234	5.33623475	0.2280442		
Corrected total	236	5.36437220			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.02813745	0.01406872	0.62	0.5402

R-Square = 0.005245 C.V.= 13.98154 Root MSE = 0.151011 PCHT Mean = 1.08007666

PCHT คือเปอร์เซ็นต์สันในเทียม (Chuck tender)

Dependent Variable : PCHA

Source	DF	SS	MS	F	Pr>F
Model	2	0.28251235	0.14125617	2.42	0.0910
Error	233	13.58888026	0.05832137		
Corrected total	235	13.871396261			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.28251235	0.14125617	2.42	0.0910

R-Square = 0.020367 C.V.= 10.62341 Root MSE = 0.241498 PCHA Mean = 2.2732685

PCHA คือเปอร์เซ็นต์รักบี้ (Chuck arm)

Dependent Variable : PCHE

Source	DF	SS	MS	F	Pr>F
Model	2	0.79912951	0.39956475	4.87	0.0085
Error	234	19.20161633	0.08205819		
Corrected total	236	20.00074584			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.79912951	0.39956475	4.87	0.0085

R-Square = 0.039955 C.V.= 15.88882 Root MSE = 0.286458 PCHE Mean = 1.80289051

PCHE คือเปอร์เซ็นต์ใบพาย (Chuck eye)

Dependent Variable : PRIB

Source	DF	SS	MS	F	Pr>F
Model	2	0.79935479	0.39967740	1.30	0.2757
Error	187	57.60219667	0.30803314		
Corrected total	189	58.40155146			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.79935479	0.39967740	1.30	0.2757

R-Square = 0.013687 C.V.= 8.1999916 Root MSE = 0.55507 PRIB Mean = 6.76845166

PRIB คือเปอร์เซ็นต์สันกลางติดกระดูก (Rib set)

Dependent Variable : PBRIS

Source	DF	SS	MS	F	Pr>F
Model	2	0.12245659	0.06122829	0.12	0.8859
Error	221	111.66422174	0.50526797		
Corrected total	223	111.78667832			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.12245659	0.06122829	0.12	0.8859

R-Square = 0.001095 C.V.= 11.86704 Root MSE = 0.710822 PBRIS Mean = 5.98988333

PBRIS คือเปอร์เซ็นต์เสือร้องไห้ (Brisket)

Dependent Variable : PSHOP

Source	DF	SS	MS	F	Pr>F
Model	2	56.87939938	28.43969969	21.86	0.0001
Error	233	303.10065111	1.30086116		
Corrected total	235	359.98005048			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	56.87939938	28.43969969	21.86	0.0001

R-Square = 0.158007 C.V.= 23.93459 Root MSE = 1.140553 PSHOP Mean = 4.76529099

PSHOP คือเปอร์เซ็นต์เนื้อซี่โครง+เนื้อพื้นอก (Short rib + Plate)

Dependent Variable : PFORE

Source	DF	SS	MS	F	Pr>F
Model	2	0.99694869	0.49847435	4.89	0.0083
Error	232	23.66572808	0.1200745		
Corrected total	234	24.66267677			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.99694869	0.49847435	4.89	0.0083

R-Square = 0.040423 C.V.= 13.87005 Root MSE = 0.319386 PFORE Mean = 2.30270376

PFORE คือเปอร์เซ็นต์น่องหน้า (Fore shank)

Dependent Variable : PSIR

Source	DF	SS	MS	F	Pr>F
Model	2	10.43188547	5.21594273	16.56	0.0001
Error	234	73.71201050	0.31500859		
Corrected total	236	84.14389597			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	10.43188547	5.21594273	16.56	0.0001

R-Square = 0.123977 C.V.= 10.90730 Root MSE = 0.561256 PSIR Mean = 5.1469504

PSIR คือเปอร์เซ็นต์สันสะโพก (Sirloin)

Dependent Variable : PBOTE

Source	DF	SS	MS	F	Pr>F
Model	2	2.16232676	1.08116338	3.81	0.0236
Error	234	66.48657639	0.28413067		
Corrected total	236	68.64890315			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	2.16232676	1.08116338	3.81	0.0236

R-Square = 0.031498 C.V.= 9.182927 Root MSE = 0.533039 PBOTE Mean = 0.80457494

PBOTE คือเปอร์เซ็นต์พับนอก+เนื้อหมอน (Bottom round+Eye round)

Dependent Variable : PTOP

Source	DF	SS	MS	F	Pr>F
Model	2	9.50460921	4.75230461	18.51	0.0001
Error	234	60.07428409	0.25672771		
Corrected total	236	69.57889331			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	9.50460921	4.75230461	18.51	0.0001

R-Square = 0.136602 C.V.= 7.610671 Root MSE = 0.506683 PTOP Mean = 6.65753470

PTOP คือเปอร์เซ็นต์พับใน (Top round)

Dependent Variable : PTIP

Source	DF	SS	MS	F	Pr>F
Model	2	0.16990723	0.08495361	0.28	0.7563
Error	234	71.07863731	0.30375486		
Corrected total	236	71.24854453			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.16990723	0.08495361	0.28	0.7563

R-Square = 0.002385 C.V.= 13.65946 Root MSE = 0.551140 PTIP Mean = 4.03485719

PTIP คือเปอร์เซ็นต์เนื้อลูกมะพร้าว (Sirloin tip)

Dependent Variable : PTB

Source	DF	SS	MS	F	Pr>F
Model	2	4.10035768	2.02017884	3.79	0.0241
Error	234	126.69919927	0.54144957		
Corrected total	236	130.79955695			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	4.10035768	2.02017884	3.79	0.0241

R-Square = 0.031348 C.V.= 9.468476 Root MSE = 0.735833 PTB Mean = 7.77139357

PTB คือเปอร์เซ็นต์ T-bone

Dependent Variable : PFLK

Source	DF	SS	MS	F	Pr>F
Model	2	2.62440345	1.31220173	3.81	0.0234
Error	234	80.48732131			
Corrected total	236	83.11172496			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	2.62440345	1.31220173	3.81	0.0234

R-Square = 0.031577 C.V.= 10.79475 Root MSE = 0.586484 PFLK Mean = 5.43304281

PFLK คือเปอร์เซ็นต์เนื้อพื้นท้อง (Flank)

Dependent Variable : PHIND

Source	DF	SS	MS	F	Pr>F
Model	2	1.72883289	0.86441645	10.68	0.0001
Error	233	18.85963847	0.08094265		
Corrected total	235	20.58847136			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	1.72883289	0.86441645	10.68	0.0001

R-Square = 0.083971 C.V.= 8.898694 Root MSE = 0.284504 PHIND Mean = 3.19714591

PHIND คือเปอร์เซ็นต์น่องหลัง (Hind shank)

Dependent Variable : PSCAP

Source	DF	SS	MS	F	Pr>F
Model	2	65.81044196	32.90522098	114.71	0.0001
Error	234	67.12522252	0.28685993		
Corrected total	236	132.93566448			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	65.81044196	32.90522098	114.71	0.0001

R-Square = 0.495055 C.V.= 5.984022 Root MSE = 0.535593 PSCAP Mean = 8.95038581

PSCAP คือเปอร์เซ็นต์เศษเนื้อ (Scarp)

Dependent Variable : PlEAN

Source	DF	SS	MS	F	Pr>F
Model	2	29.78776214	14.89388107	2.74	0.0676
Error	180	980.11593296	5.44508852		
Corrected total	182	1009.90369510			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	29.78776214	14.89388107	2.74	0.0676
R-Square = 0.029496		C.V.= 2.923435	Root MSE = 2.333471	PLEAN Mean = 79.8194984	

PLEAN คือเปอร์เซ็นต์เนื้อแดง (Lean)

Dependent Variable : PFAT

Source	DF	SS	MS	F	Pr>F
Model	2	6.71402009	3.35701005	0.63	0.5332
Error	234	1245.90534036	5.32438180		
Corrected total	236	1253.61936046			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	6.71402009	3.35701005	0.63	0.5332
R-Square = 0.005360		C.V.= 29.38257	Root MSE = 2.307462	PFAT Mean = 7.85316605	

PFAT คือเปอร์เซ็นต์ไขมัน (FAT)

Dependent Variable : PBONE

Source	DF	SS	MS	F	Pr>F
Model	2	57.42051468	27.21025734	12.10	0.0001
Error	234	526.42144711	2.24966430		
Corrected total	236	580.84196179			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	57.42051468	27.21025734	12.10	0.0001
R-Square = 0.093692		C.V.= 11.67027	Root MSE = 1.499888	PBONE Mean = 12.8522172	

PBONE คือเปอร์เซ็นต์กระดูก (Bone)

Dependent Variable : PCUTL

Source	DF	SS	MS	F	Pr>F
Model	2	49.85864304	24.92932152	6.47	0.0018
Error	234	902.10927213	3.85516783		
Corrected total	236	951.96791516			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	49.85864304	24.92932152	6.47	0.0018

R-Square = C.V.= Root MSE = PCUTL Mean =

PCUTL คือเปอร์เซ็นต์สูญหายจากการตัดแต่ง (Cutting loss)

7.4.2 อิทธิพลของน้ำหนักซากเย็นต่อเปอร์เซ็นต์ชิ้นส่วนตัดแต่งซากโคขุน (n=52)

```
data a1;
infile'd:/vichit/car1.txt';
input no int time age wt hot cold hotl@@;
infile'd:/vichit/car2.txt';
input no coll fos his loss mar bac area@@;
infile'd:/vichit/car3.txt';
input no colc chu cha che cht bris fore@@;
infile'd:/vichit/car4.txt';
input no ribs shop scap tb hin flk sir@@;
infile'd:/vichit/car5.txt';
input no bote top tip fat bone cutl@@;
run;

data a2;
set a1;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
pchu=(chu/colc)*100;
pcha=(cha/colc)*100;
pche=(che/colc)*100;
pcht=(cht/colc)*100;
pbris=(bris/colc)*100;
pfore=(fore/colc)*100;
pribs=(ribs/colc)*100;
```

```
pshop=(shop/colc)*100;
pscap=(scap/colc)*100;
ptb=(tb/colc)*100;
phin=(hin/colc)*100;
pflk=(flk/colc)*100;
psir=(sir/colc)*100;
pbote=(bote/colc)*100;
ptop=(top/colc)*100;
ptip=(tip/colc)*100;
pfat=(fat/colc)*100;
pbone=(bone/colc)*100;
pcutl=(cutl/colc)*100;
plean=pchu+pcha+pche+pcht+pbris+pfore
        +pribs+pshop+pscap+ptb+phin+pflk
        +psir+pbote+ptop+ptip+pcutl;
proc means mean std;
var pchu pcha pche pcht pbris pfore
    pribs pshop pscap ptb phin pflk
    psir pbote ptop ptip pfat pbone pcutl plean;
run;

data a3;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pchu ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pchu=colc;
lsmeans colc/stderr pdiff;
run;
```

```
data a4;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pcha ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pcha=colc;
lsmeans colc/stderr pdiff;
run;

data a5;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pche ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pche=colc;
lsmeans colc/stderr pdiff;
run;
data a6;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pcht ="." then delete;
if colc<143.00 then colc="1";
```

```
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pcht=colc;
lsmeans colc/stderr pdiff;
run;

data a7;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pbris ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pbris=colc;
lsmeans colc/stderr pdiff;
run;

data a8;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pfore ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pfore=colc;
lsmeans colc/stderr pdiff;
```

```
run;

data a9;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pribs ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pribs=colc;
lsmeans colc/stderr pdiff;
run;

data a10;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pshop ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pshop=colc;
lsmeans colc/stderr pdiff;
run;
data a11;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
```

```
if  pscap="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pscap=colc;
lsmeans colc/stderr pdiff;
run;

data a12;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  ptb ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model ptb=colc;
lsmeans colc/stderr pdiff;
run;

data a13;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  phin ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
```

```
model phin=colc;
lsmeans colc/stderr pdiff;
run;

data a14;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pflk ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pflk=colc;
lsmeans colc/stderr pdiff;
run;

data a15;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  psir="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model psir=colc;
lsmeans colc/stderr pdiff;
run;
data a16;
set a2;
if int>=300 and int<=400;
```

```
if int="." then delete;
if colc="." then delete;
if  pbote="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pbote=colc;
lsmeans colc/stderr pdiff;
run;

data a17;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  ptop ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model ptop=colc;
lsmeans colc/stderr pdiff;
run;

data a18;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if ptip ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
```

```
proc glm;
class colc;
model ptip=colc;
lsmeans colc/stderr pdiff;
run;

data a19;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pfat ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pfat=colc;
lsmeans colc/stderr pdiff;
run;

data a20;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pbone ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pbone=colc;
lsmeans colc/stderr pdiff;
run;
data a21;
```

```
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  pcutl ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model pcutl=colc;
lsmeans colc/stderr pdiff;
run;

data a22;
set a2;
if int>=300 and int<=400;
if int="." then delete;
if colc="." then delete;
if  plean ="." then delete;
if colc<143.00 then colc="1";
if colc>=143.00 and colc<=155.00 then colc="2";
if colc>155.00 then colc="3";
proc glm;
class colc;
model plean=colc;
lsmeans colc/stderr pdiff;
run;
```

General Linear Model Procedure

Dependent Variable : PCHU

Source	DF	SS	MS	F	Pr>F
Model	2	6.39586035	3.19793018	3.48	0.0387
Error	49	45.07037172	0.91980350		
Corrected total	51	51.46623208			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	6.39586035	3.19793018	3.48	0.0387

R-Square = 0.124273 C.V.= 15.11328 Root MSE = 0.959064 PCHU Mean = 6.34583348

PCHU คือเปอร์เซ็นต์ไหล่ (Chuck)

Colc คือ น้ำหนักซากเย็นซีกซ้าย (กก.)

Dependent Variable : PCHT

Source	DF	SS	MS	F	Pr>F
Model	2	0.02227359	0.01113680	0.70	0.5005
Error	49	0.77738516	0.01586500		
Corrected total	51	0.79965875			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.02227359	0.01113680	0.70	0.5005

R-Square = 0.027854 C.V.= 12.01628 Root MSE = 0.125956 PCHT Mean = 1.04821433

PCHT คือเปอร์เซ็นต์สันในเทียม (Chuck tender)

Dependent Variable : PCHA

Source	DF	SS	MS	F	Pr>F
Model	2	0.02181840	0.01090920	0.29	0.7509
Error	49	1.85531938	0.03786366		
Corrected total	51	1.87713778			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.02181840	0.01090920	0.29	0.7509

R-Square = 0.011623 C.V.= 8.805203 Root MSE = 0.194586 PCHA Mean = 2.20989651

PCHA คือเปอร์เซ็นต์รักบี้ (Chuck arm)

Dependent Variable : PCHE

Source	DF	SS	MS	F	Pr>F
Model	2	0.10844023	0.05422012	0.60	0.5545
Error	49	4.45078357	0.09083232		
Corrected total	51	4.55922381			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.10844023	0.05422012	0.60	0.5545

R-Square = 0.023785 C.V.= 16.91835 Root MSE = 0.301384 PCHE Mean = 1.78140342

PCHE คือเปอร์เซ็นต์ใบพาย (Chuck eye)

Dependent Variable : PRIB

Source	DF	SS	MS	F	Pr>F
Model	2	0.67129865	0.33564935	0.71	0.4975
Error	44	20.81735060	0.47312160		
Corrected total	46	21.48864925			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.67129865	0.33564935	0.71	0.4975

R-Square = 0.031240 C.V.= 10.28071 Root MSE = 0.687838 PRIB Mean = 6.69057490

PRIB คือเปอร์เซ็นต์สันกลางติดกระดูก (Rib set)

Dependent Variable : PBRIS

Source	DF	SS	MS	F	Pr>F
Model	2	0.12307617	0.06153808	0.17	0.8418
Error	49	17.45348349	0.35619354		
Corrected total	51	17.57655966			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.12307617	0.06153808	0.17	0.8418

R-Square = 0.007002 C.V.= 9.954365 Root MSE = 0.596820 PBRIS Mean = 5.99555611

PBRIS คือเปอร์เซ็นต์เสือร้องไห้ (Brisket)

Dependent Variable : PSHOP

Source	DF	SS	MS	F	Pr>F
Model	2	8.31241970	4.15620985	3.33	0.0439
Error	49	61.09069295	1.24674884		
Corrected total	51	69.40311265			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	8.31241970	4.15620985	3.33	0.0439

R-Square = 0.119770 C.V.= 23.09845 Root MSE = 1.116579 PSHOP Mean = 4.83400069

PSHOP คือเปอร์เซ็นต์เนื้อซี่โครง+เนื้อพื้นอก (Short rib + Plate)

Dependent Variable : PFORE

Source	DF	SS	MS	F	Pr>F
Model	2	0.12847832	0.06423916	0.93	0.4014
Error	49	3.38506283	0.06908291		
Corrected total	51	3.5154115			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.12847832	0.06423916	0.93	0.4014

R-Square = 0.036567 C.V.= 11.68501 Root MSE = 0.262836 PFORE Mean = 2.24934490

PFORE คือเปอร์เซ็นต์น่องหน้า (Fore shank)

Dependent Variable : PSIR

Source	DF	SS	MS	F	Pr>F
Model	2	1.27592815	0.63796408	1.84	0.1689
Error	49	16.94955690	0.34590932		
Corrected total	51	18.22548505			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	1.27592815	0.63796408	1.84	0.1689

R-Square = 0.070008 C.V.= 11.81301 Root MSE = 0.588141 PSIR Mean = 4.97875416

PSIR คือเปอร์เซ็นต์สันสะโพก (Sirloin)

Dependent Variable : PBOTE

Source	DF	SS	MS	F	Pr>F
Model	2	0.13302540	0.6651270	0.49	0.6139
Error	49	6.61408425	0.13498131		
Corrected total	51	6.74710965			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.13302540	0.6651270	0.49	0.6139

R-Square = 0.019716 C.V.= 6.496521 Root MSE = 0.367395 PBOTE Mean = 5.65530455

PBOTE คือเปอร์เซ็นต์พับนอก+เนื้อหมอน (Bottom round+Eye round)

Dependent Variable : PTOP

Source	DF	SS	MS	F	Pr>F
Model	2	0.14720868	0.07360434	0.44	0.6477
Error	49	8.23126874	0.16798508		
Corrected total	51	8.37847742			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.14720868	0.07360434	0.44	0.6477

R-Square = 0.017570 C.V.= 6.251404 Root MSE = 0.409860 PTOP Mean 6.55628484

PTOP คือเปอร์เซ็นต์พับใน (Top round)

Dependent Variable : PTIP

Source	DF	SS	MS	F	Pr>F
Model	2	0.18671153	0.09335577	0.30	0.7390
Error	49	15.02846994	0.30670347		
Corrected total	51	15.21518148			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.18671153	0.09335577	0.30	0.7390

R-Square = 0.012271 C.V.= 13.76136 Root MSE = 0.553808 PTIP Mean = 4.0237219

PTIP คือเปอร์เซ็นต์เนื้อลูกมะพร้าว (Sirloin tip)

Dependent Variable : PTB

Source	DF	SS	MS	F	Pr>F
Model	2	0.41000229	0.20500114	0.84	0.4365
Error	49	11.91348866	0.24313242		
Corrected total	51	12.32349095			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.41000229	0.20500114	0.84	0.4365

R-Square = 0.033270 C.V.= 6.42750 Root MSE = 0.493085 PTB Mean = 7.67237830

PTB คือเปอร์เซ็นต์ T-bone

Dependent Variable : PFLK

Source	DF	SS	MS	F	Pr>F
Model	2	1.70227456	0.85113728	2.79	0.0714
Error	49	14.96312335	0.30536986		
Corrected total	51	16.66539791			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	1.70227456	0.85113728	2.79	0.0714

R-Square = 0.102144 C.V.= 10.33953 Root MSE = 0.552603 PFLK Mean = 5.34456187

PFLK คือเปอร์เซ็นต์เนื้อพื้นท้อง (Flank)

Dependent Variable : PHIND

Source	DF	SS	MS	F	Pr>F
Model	2	0.43760964	0.21880482	3.51	0.0376
Error	49	3.305341534	0.06231460		
Corrected total	51	3.49102497			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	0.43760964	0.21880482	3.51	0.0376

R-Square = 0.125353 C.V.= 7.954202 Root MSE = 0.249629 PHIND Mean = 3.13832765

PHIND คือเปอร์เซ็นต์น่องหลัง (Hind shank)

Dependent Variable : PSCAP

Source	DF	SS	MS	F	Pr>F
Model	2	6.48017817	3.24008908	19.35	0.0001
Error	49	8.20414118	0.16743145		
Corrected total	51	14.68431935			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	6.48017817	3.24008908	19.35	0.0001

R-Square = 0.441299 C.V.= 4.711151 Root MSE = 0.409184 PSCAP Mean = 8.68543264

PSCAP คือเปอร์เซ็นต์เศษเนื้อ (Scarp)

Dependent Variable : PlEAN

Source	DF	SS	MS	F	Pr>F
Model	2	8.03776725	4.10888363	0.89	0.4179
Error	44	198.66742270	4.51516870		
Corrected total	46	206.70518995			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	8.03776725	4.10888363	0.89	0.4179

R-Square = 0.038885 C.V.= 2.677092 Root MSE = 2.124893 PLEAN Mean = 79.3731766

PLEAN คือเปอร์เซ็นต์เนื้อแดง (Lean)

Dependent Variable : PFAT

Source	DF	SS	MS	F	Pr>F
Model	2	7.95683045	3.97841523	0.68	0.5089
Error	49	284.66151324	5.80941864		
Corrected total	51	292.61834369			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	7.95683045	3.97841523	0.68	0.5089

R-Square = 0.027192 C.V.= 28.98101 Root MSE = 2.410274 PFAT Mean = 8.31673351

PFAT คือเปอร์เซ็นต์ไขมัน (FAT)

Dependent Variable : PBONE

Source	DF	SS	MS	F	Pr>F
Model	2	8.16906510	4.08453255	1.85	0.1686
Error	49	108.38794742	2.21199893		
Corrected total	51	116.55701252			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	8.16906510	4.08453255	1.85	0.1686

R-Square = 0.070086 C.V.= 11.66091 Root MSE = 1.487279 PBONE Mean = 12.7543963

PBONE คือเปอร์เซ็นต์กระดูก (Bone)

Dependent Variable : PCUTL

Source	DF	SS	MS	F	Pr>F
Model	2	1.09115634	0.54557817	0.15	0.8642
Error	49	182.57027293	3.72592394		
Corrected total	51	183.66142927			
Source	DF	Type III SS	MS	F	Pr>F
Colc	2	1.09115634	0.54557817	0.15	0.8642

R-Square = 0.005941 C.V.= 81.72323 Root MSE = 1.930265 PCUTL Mean = 2.36195421

PCUTL คือเปอร์เซ็นต์สูญหายจากการตัดแต่ง (Cutting loss)

7.5 แสดงผลการวิเคราะห์ข้อมูลทางสถิติอิทธิพลระยะเวลาการบ่มต่อคุณภาพเนื้อโคขุน

```
data a1;
infile'd:/vichit/meat1.txt';
input age pH tem l a b drip cook@@;
infile'd:/vichit/meat2.txt';
input age ins@@;

data a2;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
```

```
model ph=age;
lsmeans age/stderr pdiff;
run;

data a3;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model tem=age;
lsmeans age/stderr pdiff;
run;

data a4;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model L=age;
lsmeans age/stderr pdiff;
run;

data a5;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
```

```
if age20 then age=5;
proc glm;
class age;
model a=age;
lsmeans age/stderr pdiff;
run;

data a6;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model b=age;
lsmeans age/stderr pdiff;
run;

data a7;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model drip=age;
lsmeans age/stderr pdiff;
run;

data a8;
set a1;
if age1 then age=1;
```

```
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model cook=age;
lsmeans age/stderr pdiff;
run;

data a9;
set a1;
if age1 then age=1;
if age5 then age=2;
if age7 then age=3;
if age14 then age=4;
if age20 then age=5;
proc glm;
class age;
model ins=age;
lsmeans age/stderr pdiff;
run;
```

General Linear Model Procedure

Dependent Variable : pH

Source	DF	SS	MS	F	Pr>F
Model	4	0.12509067	0.03127267	1.81	0.1294
Error	145	2.50086667	0.01724736		
Corrected total	149	2.62595733			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	0.12509067	0.03127267	1.81	0.1294

R-Square = 0.047636 C.V.= 2.314633 Root MSE = 0.131329 pH Mean = 5.67386667

pH คือ ค่าความเป็นกรด-ด่าง

Age คือ ระยะเวลาการบ่ม

Dependent Variable : TEM

Source	DF	SS	MS	F	Pr>F
Model	4	10.84906667	2.71226667	0.26	0.9005
Error	145	1487.8056667	10.26114253		
Corrected total	149	1498.71473333			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	10.84906667	2.71226667	0.26	0.9005
R-Square = 0.007239		C.V.= 42.62355	Root MSE = 3.203302	TEM Mean = 7.51533333	

TEM คืออุณหภูมิ

Dependent Variable : L

Source	DF	SS	MS	F	Pr>F
Model	4	132.4440573	33.1110143	1.60	0.1768
Error	145	2995.7074600	20.6600514		
Corrected total	149	3128.1515173			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	132.4440573	33.1110143	1.60	0.1768
R-Square = 0.042339		C.V.= 11.59685	Root MSE = 4.545333	L Mean = 39.1945333	

L คือ L*(lightness)

Dependent Variable : a

Source	DF	SS	MS	F	Pr>F
Model	4	82.81436400	20.70359100	1.72	0.1482
Error	145	1743.24710000	12.02239379		
Corrected total	149	1826.06146400			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	82.81436400	20.70359100	1.72	0.1482
R-Square = 0.045351		C.V.= 19.48684	Root MSE = 3.467332	a Mean = 17.7932000	

a คือ a* (redness)

Dependent Variable : b

Source	DF	SS	MS	F	Pr>F
Model	4	172.8843040	43.2210760	13.31	0.0001
Error	145	470.8476800	3.2472254		
Corrected total	149	643.7319840			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	172.8843040	43.2210760	13.31	0.0001

R-Square = 0.268566 C.V.= 26.14932 Root MSE = 1.8026006 b Mean = 6.89120000

b คือ b*(yellowness)

Dependent Variable : DRIP

Source	DF	SS	MS	F	Pr>F
Model	4	50.15571733	12.53892933	7.97	0.0001
Error	145	228.0869200	1.57301324		
Corrected total	149	278.2426733			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	50.15571733	12.53892933	7.97	0.0001

R-Square = 0.180259 C.V.= 60.71051 Root MSE = 1.254198 DRIP Mean = 2.06586667

DRIP คือน้ำหนักสูญเสียระหว่างการเก็บรักษา (Drip loss)

Dependent Variable : COOK

Source	DF	SS	MS	F	Pr>F
Model	4	226.0402707	56.5100677	1.99	0.0993
Error	145	4120.1747967	28.4149986		
Corrected total	149	4346.2150673			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	226.0402707	56.5100677	1.99	0.0993

R-Square = 0.052009 C.V.= 17.31856 Root MSE = 5.330572 COOK Mean = 30.7795333

COOK คือน้ำหนักสูญเสียระหว่าการปรุงสุก (Cooking loss)

Dependent Variable : INS

Source	DF	SS	MS	F	Pr>F
Model	4	235.2512640	58.8128160	159.94	0.0001
Error	145	53.3192033	0.3677186		
Corrected total	149	288.5704673			
Source	DF	Type III SS	MS	F	Pr>F
Age	4	235.2512640	58.8128160	159.94	0.0001

R-Square = 0.815230 C.V.= 11.38320 Root MSE = 0.606398 INS Mean = 5.32713333

INS คือค่าแรงตัดผ่านชิ้นเนื้อ (Shear force)