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# SHEEP PRODUCTION TESTING

## *The Oregon System*



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SHEEP PRODUCTION TESTING--THE OREGON SYSTEM  
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Productive businesses of all kinds are faced with the need for continuous improvement of their productive capacities to keep abreast with our dynamic and moving society. Lack of a forward reaching program will soon place any business in an increasingly unfavorable position.

Livestock producers are no less susceptible to this need than are operators of any other productive enterprises. To adequately meet growing needs and competition, and to maintain a favorable economic position, the livestock producer must select for and maintain improved breeding animals which will return a satisfactory profit. Improvements gained through selective breeding do not come rapidly, but they can be greatly accelerated by following a good program.

#### A Selection Index

A production testing program which incorporates the use of a selection index can help Oregon sheepmen realize more profit from their enterprises. Such a program provides an opportunity to select more accurately ewes with the genetic capacity to produce more lamb and wool. To do this, traits which contribute most to total flock income, such as the ewe's ability to wean heavy lambs and produce a heavy fleece, and the lamb's ability to gain rapidly and efficiently are combined into one overall value or score which measures the genetic worth or breeding value of an animal. This index provides a single figure by which animals in a flock can be compared for replacement and culling purposes.

#### How it is Done

Only a minimum in equipment is necessary. All should have it whether or not they participate in such a program; a dairy type scale to weigh fleeces and lambs at birth if desired, and a scale adequate to obtain lamb weaning weights. A desirable set-up is a scale which can be placed at the end of a cutting chute. A weighing crate can be built and placed on the scale so the lamb can enter one end, be weighed, and then released through the other end. A hundred or more lambs per hour can be individually weighed with such an arrangement.

Each participating producer registers for the service through the Extension Service and returns to them a basic set of information on record forms (see Page 12) which are provided. The information is punched into a set of cards and processed through the University Computer Center. The computer calculates an index for each ewe and her lamb(s) along with other information; such as total and average flock wool weights and weaning weights, average weaning weights of all lambs from a certain ram, number of days between exposure of ewes to a certain ram, lambing date, etc. This information is then tabulated into easy-to-read tables and returned to the producer for use in his selection program. Because electronic processing of data requires that rather rigid, though straight-forward, rules be followed in recording of information, a standardized data collection form has been adopted. This form, known as the "Sheep Production Testing Record Sheet," must be used to submit flock records for processing.

#### Filling in the Sheep Production Testing Record Sheet

Each year's record keeping begins at breeding time and is submitted for processing after the 90-day lamb weights are obtained. Fill in the record sheet as completely and accurately as possible. Double check for accuracy. The following information is required before an index can be calculated:

- (a) For the ewe--number and age. Fleece weight and number of months since previous shearing date are used in calculating the index and should be recorded if possible. If they are not recorded, the index will be calculated without fleece weight credit.
- (b) For the lamb--number, birth day, sex, birth and rearing code, final 90-day weight, and weigh date.

Other information is optional, but useful if recorded. In some instances death or other losses will occur and all of the above essential information will not be available. However, the following two rules should be followed:

- (a) Be sure that a line on the record form is devoted to each ewe in the flock whether she does or does not raise a lamb.
- (b) Be sure that each lamb born is represented on a line with its dam. Even though a lamb may die at birth or soon thereafter, it should be recorded to make the record complete. In such cases if no number is given to the lamb, leave this area blank on the report form. Record other information if available, such as sex and birth weight.

#### Ear Tag Number

Each ram and each ewe and her lamb(s) must be permanently identified. Purebred breeders regularly do this anyway, but the commercial breeder must also do this with a numbered metal or plastic ear tag. Use the flock ear tag number for ewes and lambs and an abbreviated sire identification number up to three digits long. Once an ear tag number is used to identify an animal, it is stored on a magnetic tape file as a permanent identification for that particular animal. Therefore, (1) if a tag is lost, the original number must always be used when reporting records for that animal, and (2) no two animals can simultaneously be identified by the same number.

If the numbering system you use has a letter or number prefix, such as A-58 or 68-123 (68 designating the year of birth), record all numbers with an equal number of digits, otherwise lamb listings cannot be automatically sorted into proper order. For example, if you have numbers above 100, then 68-1 should be recorded as 68001, 68-10 as 68010, and 68-100 as 68100.

#### Breed Code

This is to be recorded on the record sheet as a two-digit code and is determined from the following list of breeds and their codes. The method of determining the two digits of the code to be recorded on the record sheet is illustrated as follows:

- (a) The ewe is a purebred Hampshire: Code = HH
- (b) The ewe is a purebred Columbia: Code = 11
- (c) The ewe is a crossbred of Hampshire ram and Columbia ewe (breed of the ram listed first): Code = H1

The breed code of the ram is determined in the same way. A breed code should be recorded for the dam and ram of each lamb. The dam code, however, appears only once on each form (upper left side). Thus, each record sheet must have recorded on it information for only one breed of ewe. If you have more than one breed of ewes involved in the production testing service, use separate forms for each breed.

<u>Code</u>	<u>Breed</u>	<u>Code</u>	<u>Breed</u>
C	Cheviot	1	Columbia
D	Dorset	2	Corriedale
H	Hampshire	3	Cotswald
L	Lincoln	4	Leicester
M	Merino	5	Montadale
N	North Country Cheviot	6	Romney
O	Oxford	7	Shropshire
P	Panama	8	Southdown
R	Rambouillet		
S	Suffolk		
T	Targhee		

Control Code (C-C). This is a control code used in the summarization process. It is concerned primarily with foster ewe and lamb situations and is used to give ewes proper credit for raising foster lambs. It must be filled in. Record the one code number which applies.

<u>Code Number</u>	<u>Meaning</u>
1.	No foster lambs involved.
2.	This is a fostered lamb entry. The lamb is listed with its own dam, but its foster dam is listed in the appropriate column under "Remarks". The lamb's own dam is represented by another entry. For example, she raises one of her own twins and this is recorded on another line.
3.	This is a fostered lamb entry. As in (2) above, the lamb is listed with its own dam, and its foster dam is listed under "Remarks". As distinguished from (2), however, the lamb's own dam is <u>not</u> represented in another entry. Use this code if the foster ewe is of another breed.
4.	This entry is a ewe with her own lamb. This ewe also raised a foster lamb (represented by another entry with a "2" code).
5.	This entry is a ewe with her own dead lamb. This ewe did, however, raise a foster lamb (represented by another entry with a "2" code).
6.	The lamb listed with the ewe on this line died or was otherwise disposed of sometime between birth and the final weighing. No foster lamb was raised but the ewe may have raised a surviving lamb of her own (the surviving lamb would be listed with the ewe on another line with the C-C code 1).

7. This ewe aborted before the normal delivery time.
8. This ewe was exposed to a ram but did not lamb.
9. This ewe was not bred.

Age of ewe. Report ewe's age in years (1, 2, 3, etc.) to the nearest year of age when her lamb dropped.

Fleece weight. Record fleece weight to the nearest one-half pound. For example, 9.0 for nine pounds and 9.5 for nine and one-half pounds.

Staple length. Record to the nearest 1/10 inch, for example, 3.0 or 4.1.

Months since previous shearing date. Record to the closest month the number of months that have lapsed since the ewe was last shorn. For example, from March 27 last year to March 1 this year would be 11 months.

Day ram turned in. Record as the day of year as (see Page 13). From this will be calculated the number of days between exposure of the ewe to the ram and her date of lambing.

Birth day of year. Record as the day of year as indicated above, for example, February 10 is the 41st day of the year.

Birth weight. Record to the nearest one-half pound.

Sex. Use the appropriate code:

- 1 = male (raised as a ram lamb)
- 2 = female
- 3 = wether (made a wether soon after birth)

B & R. Refers to type of birth and rearing. This information must be recorded so that environmental differences between lambs can be corrected. Use the appropriate code:

- 1 = lamb born and raised as a single
- 2 = lamb born a twin but raised a single
- 3 = lamb born a triplet but raised a single
- 4 = lamb born a single but raised a twin
- 5 = lamb born and raised a twin
- 6 = lamb born a triplet and raised a twin
- 7 = lamb born and raised a triplet

For example, a lamb born a single but raised as a twin with a foster lamb would be coded a "4". A lamb born a triplet, but raised as a single (other lambs die or are fostered by another ewe) would be coded as "3".

Cr. An abbreviation used to indicate creep feeding. If lambs are creep fed, indicate by checking the square.

Weigh day of year. Record as the day of year; for example, May 20 is the 140th day of the year (141st during leap year).

Weight. Record to the nearest pound. Weights need not be taken at exactly 90 days but the average of the group should be as close to that age as conveniently possible. If the age spread is more than 20 days, divide the lambs into groups with about that age spread. Weigh each group when the average age is near 90 days. This can be simplified by a little extra effort at lambing time. Place a paint mark over the shoulder of lambs born during the first 20 days. One hundred days after the first lamb is so marked, weigh this group of lambs. Place the paint mark at some other location--on the rump--of lambs born during the second 20-day period. One hundred days after the first such brand, weigh all the lambs with the same brand. Different brand colors could be used if desired. If the record forms are kept in order by birth dates, each lamb's record will be easily located to record the final weight.

A, B, and C Scores. Scores based on the visual appraisal of a characteristic can often be used to an advantage in selecting breeding animals. For example, a type score based on general appearance and typiness can be assigned to give a comparative rating between lambs for this characteristic. The muscling or meatiness of lambs might also be so rated. For some breeds, face cover is an important consideration. Scores for feet and legs and for fleece characteristics have also been used. Another use of scores is as a comparative rating of lambs at birth based upon their typiness or vigor.

Though scores can be used to an advantage, they can also be a disadvantage if not used wisely. This latter happens in two ways: (1) if the person assigning the score is familiar with the flock, his evaluation of a lamb might be biased by his opinion of its dam or sire. (2) The more factors involved in forming the basis of selection of breeding animals, the slower will be the genetic improvement. This is because no one animal is likely to be superior for each of several factors considered, but will be superior for some and mediocre for others. When a number of scores are given consideration, they retard or even nullify progress for the economically important characteristics of pounds of lamb weaned and pounds of fleece shorn.

Because each producer differs in his appraisal and evaluation of these scored characteristics, they have not been used in the computation of the selection index. Nor has a standardized format been adopted. The three positions on the record form designated A, B, and C are for use in recording scores. Those recorded will be summarized and printed out on the summary report forms.

The following rules should be used as a guide when using scores:

- (1) Be objective or have an unbiased person assigned to the scores.
- (2) Keep them simple. The more complex they become the less they will likely contribute to genetic improvement.

- (3) Partition a scored characteristic into nine or fewer scores. Use 1 as the least desirable with each unit value increase in the score representing a unit value increase in desirability of the characteristic.

### Remarks Code

The symbolic representation of comments or remarks about a ewe or her lamb allows considerably more information to become a permanent part of the ewe or lamb record than would otherwise be possible.

The following list of remarks and their codes includes some of the more consistent ones used by sheep producers. Any two can be recorded on the source form. Additional comments may be written on the record sheet if desired.

<u>Code</u>	<u>Remark</u>
(Codes for lambs which are assigned at lambing time)	
1	Born dead or found dead (assumed born dead or died at birth)
2	Assisted birth, breach delivery
3	Assisted birth, head and/or legs back
4	Assisted birth, large lamb
5	Uneven jaw development
6	Deformed, died or destroyed
7	Black fibers in fleece
8	Undesirable fleece characteristics
9	
10	

(Codes for lambs which die between birth and obtaining the 90-day weight)

A	Died within first two days, accidental
B	Died within first two days, weakness or sickness
C	Died between day 2 and day 10, accidental
D	Died between day 2 and day 10, weakness or sickness
E	Died between day 10 and day 30
F	Died between day 30 and day 60
G	Died between day 60 and weaning
H	Unaccounted for at weaning

(Codes for lambs which indicate a set-back, handicap, or other factors which may influence the final weight)

K	Received supplemental milk; bottle fed, etc.
L	Suffered from injury
M	Suffered from sickness

(Codes which apply to the ewe)

P	Exhibited prolapse of the reproductive organs
Q	Has extra good milk
R	Has no milk
S	Abnormal udder (mastitis, etc.)
T	Normal udder but poor milking ewe

(Codes which apply to the ewe) con't.

- U Has only one teat or 1/2 udder
- V Abnormally thin (lungers, etc)
- W Over-fat
- X Chronic lameness
- Y Small pelvis

### Computed Summary Table Values

This production testing program offers two levels of service depending on the desires and needs of the individual producer. The tables received by each producer depend upon the service level for which he enrolls.

The basic service program offers two summary tables: (1) A Flock Summary and (2) A Ewe Lifetime Production Record. Two additional tables are available which would be of particular value for larger flocks: (1) A Ram Summary and (2) a Lamb Summary.

A basic format is used throughout with only slight modification between tables. In the Flock Summary, the Ewe Lifetime Production Record, and the Ram Summary, each ewe and each of her lambs is listed on a separate line in ewe-lamb groups. Each lamb used in computing the ewe index is listed on a line above the ewe line. Cases involving lambs not used in computing the ewe index are printed below the ewe line. The Lamb Summary is divided into ewe lamb and ram lamb sex groups and includes only the lamb lines.

Information found on each of the ewe and lamb lines includes that provided on the original record forms along with the following important calculated values.

Ram Days. This is the number of days between the first exposure of the ewe to the ram and the birth date of her lamb(s). Ewes should settle with a maximum of two services from a fertile ram. This means that a normal ewe should lamb within at least 182 days from the time the ram is turned in. By checking the ram days, it is possible to detect late breeders and rams with low fertility or questionable breeding capacity. Because the fault may be with either sex, it is important to examine ram days with regard to the ram as well as the ewe.

90-Day Adjusted Weight. This adjustment places all lambs on a comparable age basis. The rate of gain from birth to final weight is used to adjust the weights to the 90-day base.

Adjusted Weight Ratio. This shows the relationship of the 90-day adjusted weight of each lamb to the average of its sex group. For example, assume the average adjusted weight of all the ewe lambs in the flock is 70 pounds. A ewe lamb with an adjusted weight of 84 pounds would have a ratio value of 120. That is,

$$\frac{84}{70} \times 100 = 120.$$

This means that its weight is 20% above the average for the ewe lambs. A ewe lamb with an adjusted weight of 63 pounds would have a ratio value of 90.

$$\frac{63}{70} \times 100 = 90.$$



This ratio value shows that this lamb's adjusted weight is 10% below the average for the ewe lambs. The ratio value shows at a glance the relative position of any lamb with respect to the rest of the lambs of its own sex.

Lamb Index. The lamb's index value is indicative of its genetic value compared to the others of its group. Environmental variables such as age, sex, type of birth and rearing, and age of dam have been equalized so that each lamb can be compared on a comparable basis.

Lamb Index Ratio. As with the 90-day adjusted weight ratio, this relates each lamb to the average of the sex group to which it belongs. The average is equated to 100%. Values above or below 100 show the percentage the lamb's index is above or below the average.

Ewe Index. The ewe index suggests the genetic value of the ewe with respect to the other ewes of the flock. Because there are environmental differences between flocks even within the same area, it does not provide a valid comparison with ewes of a different flock. It is based upon the average adjusted weight of her lamb(s) plus corrections and credits for age, multiple births and rearings, sex of lamb, and grease fleece weight.

Ewe Index Ratio. This ratio shows the relationship of the ewe's index to that of the flock average. As with the other ratios the average is equated to 100%. A ratio value of 115 for a ewe shows that her index is 15% above the average of all the ewes in the flock.

Other Computed Values. In addition to the values computed for each ewe and her lambs, each table contains overall averages and totals. These overall figures can be of real importance in assessing the performance of an individual ewe.

### Using the Summary Tables

When the sheep producer selects a portion of his ewes for breeding purposes because of their superior performance for some trait, selection pressure is being applied. For example, assume that the average ewe index in a flock is 95. A portion of the ewe flock is kept for breeding purposes because of their high index value, the rest are culled. The average index value of those ewes kept for breeding is 115, or an increase of 20 over the index average of the entire flock. This difference between the flock average and the average of the individuals within the flock that are kept for breeding purposes is referred to as a selection differential. The larger the selection differential the more rapid will be the genetic improvement for the trait. However, a number of factors may affect the size of the selection differential. Very important among these is the number of animals that can be culled in the process of selecting breeding animals, or the number that need to be kept for replacement purposes. If the flock size is being increased, perhaps all of the females may be kept for breeding purposes in which case there would be no selection differential. If the flock size is being kept the same from year to year, greater selectivity can be exercised and the size of the selection differential increased.

Some compromises must be made in any sheep improvement program, but remember that to increase the average index and thereby the productivity of the flock, there must be a selection differential. The following suggestions may be useful:

- (1) Cull ewes from the flock which do not have sound mouths, udders, etc.
- (2) Cull those ewes which consistently drop their lambs after 182 ram days.
- (3) Consistent with the number of ewes which must be kept for replacement purposes, cull from the flock a percentage of the ewes with the lowest selection index and replace them with yearling ewes which indexed the highest as lambs. Ewe and lamb index values are calculated differently so they are not directly comparable. A high ewe index in a flock may be 120 whereas a high lamb index may be 95.
- (4) After the flock has been on the program for a number of years carefully study the Ewe Lifetime Production Record, particularly the accumulative totals and averages. Cull those ewes that are not performing. Those ewes which are not weaning you an average of at least one lamb per year are not making you money and should be culled.
- (5) Study the Ram Summary. Sometimes surprising differences show up between the performance of the progeny of different rams. Do not use a second time those rams that are not doing the job or those who are bred to otherwise early lambing ewes that lamb later than 182 ram days.

### Summary

Adoption of computerized techniques in a production testing program is not an adventure in sophisticated superfluity. It is the adoption of one of the tools at hand to more effectively implement a scientifically sound selection and culling program within a flock of sheep. A selection index which balances strong points against weak points in keeping with their relative economic importance enables direct comparison between the breeding animals within a flock. If the best rams are used and a percentage of the low index ewes are systematically replaced each year with the highest indexed replacement ewe lambs, the performance of the flock will steadily increase.

This is what you do if you wish to participate:

1. Have the right equipment; especially scales adequate to obtain fleece weights and lamb weights. Of course, the arrangement of corrals and a cutting chute will have a lot to do with the time required and the convenience of obtaining the records.
2. Register for the service through your County Extension agent or the Animal Science Department. At that time the necessary forms will be supplied.
3. Record the information on the forms at the appropriate time as directed in the instructions. Identifications, weights and weigh dates should be recorded as they are made to keep the record current. This will necessitate information being recorded at the following times:

- a. The date when the rams are turned in with the ewe flock at breeding time.
  - b. Ear tagging of the lamb is done at birth as is the usual practice with purebred flocks. The number of the ewe and lamb(s) should be recorded on the form at that time along with the date, birth weight if desired, and the appropriate sex and birth and rearing codes.
  - c. At shearing time the weight of each fleece should be recorded.
  - d. Lamb weights should be taken when approximately 90 days of age are reached. Also change birth-rearing codes if lambs have died.
4. Submit the forms through the Extension Service to the University for processing of the records.
  5. Pay the registration fee and the charges for the service plan for which you are registered.

This is what you will receive in return for your participation:

1. A set of record forms for recording performance data. Assistance will be available from the University in familiarizing you with the record forms, the codes and how they are used. Assistance will also be available for obtaining the initial set of records to be sure that uniform and correct procedures are used.
2. After the records are received by the University, they will be processed, summarized, and printed out in easy-to-use tables. These tables will be returned to you for use in your yearly culling and replacement selection program.
3. The by-product of such a program is a good and accurate set of records. These records should be of considerable value to you as an aid in the management of your sheep flock.

Additional information regarding this program can be obtained through your local Extension Agent or by writing directly to the Department of Animal Science, Oregon State University.

STEPS TO FOLLOW IN FILLING OUT A  
"SHEEP PRODUCTION TESTING RECORD SHEET"

The "Owner-ID" will be filled in at the University. You supply the rest of the information. The dots along the top of the first line indicate the maximum number of digits that can be used for each entry.

- A. Ear tag no. Use up to six digits or letters for ewes and lambs, only three for a ram.
- B. C-C. The appropriate code must be recorded on each line.
- 1 - No foster or dead lamb is involved.
  - 2 or 3 - The lamb recorded on the line is fostered by the ewe identified under "Remarks." Use 2 if the lamb's own dam is represented on another line and 3 if she is not.
  - 4 - The entry is a ewe with her own lamb, but she also raised a foster (listed on another entry with a "2" code).
  - 5 - The entry is a ewe with her own dead lamb, but she did raise a foster lamb (listed on another entry with a "2" code).
  - 6 - The entry is a ewe with her lamb that died or was otherwise disposed of before the final weighing. No foster was raised, but she may have raised a surviving lamb listed on another line with a "1" code.
  - 7 - The ewe aborted before normal delivery time.
  - 8 - The ewe was exposed to a ram but did not lamb.
  - 9 - The ewe was not bred.
- C. Age. The nearest year of age of the ewe when her lamb was dropped.
- D. Fleece weight. Grease fleece weight to the nearest one-half pound.
- E. Staple length (optional). Length of staple to the nearest 1/10 inch.
- F. Months since shorn. Months that have lapsed since ewe was last shorn.
- G. Day ram turned in. Day of year the ram was turned in with the ewes.
- H. Birth day. Day of year the lamb was born.
- I. Birth weight (optional). Weight to the nearest one-half pound.
- J. Sex. Male = 1, female = 2, and wether = 3.
- K. B & R. Refers to type of birth and rearing.
- |                                    |                                  |
|------------------------------------|----------------------------------|
| 1 = born and raised single         | 5 = born and raised twin         |
| 2 = born twin but raised single    | 6 = born triplet but raised twin |
| 3 = born triplet but raised single | 7 = born and raised triplet      |
| 4 = born single but raised twin    |                                  |
- L. Cr. Check this column if the lamb was creep fed.
- M. Weigh day. Day of year the final weight was taken.
- N. Weight. Record to the nearest pound.
- O. A, B, C (optional). Scores based on visual appraisal. Identify the characteristics you want to score and use codes between 1 and 9 with higher score values indicating greater desirability.

When your records are completed return the white copy to the University for processing and retain the yellow copy for your own files.

TYPE OF FLOCK: PUREBRED ☐

Shading indicates optional information, all other values should be supplied when applicable.

NUMBER OF DAYS BETWEEN DATES WITHIN ONE YEAR

Applies to ordinary years only. For leap years add one day to each number of days after February 28.

Calendar date	Months											
	1 Jan.	2 Feb.	3 Mar.	4 April	5 May	6 June	7 July	8 Aug.	9 Sept.	10 Oct.	11 Nov.	12 Dec.
1:	1:	32:	60:	91:	121:	152:	182:	213:	244:	274:	305:	335:
2:	2:	33:	61:	92:	122:	153:	183:	214:	245:	275:	306:	336:
3:	3:	34:	62:	93:	123:	154:	184:	215:	246:	276:	307:	337:
4:	4:	35:	63:	94:	124:	155:	185:	216:	247:	277:	308:	338:
5:	5:	36:	64:	95:	125:	156:	186:	217:	248:	278:	309:	339:
6:	6:	37:	65:	96:	126:	157:	187:	218:	249:	279:	310:	340:
7:	7:	38:	66:	97:	127:	158:	188:	219:	250:	280:	311:	341:
8:	8:	39:	67:	98:	128:	159:	189:	220:	251:	281:	312:	342:
9:	9:	40:	68:	99:	129:	160:	190:	221:	252:	282:	313:	343:
10:	10:	41:	69:	100:	130:	161:	191:	222:	253:	283:	314:	344:
11:	11:	42:	70:	101:	131:	162:	192:	223:	254:	284:	315:	345:
12:	12:	43:	71:	102:	132:	163:	193:	224:	255:	285:	316:	346:
13:	13:	44:	72:	103:	133:	164:	194:	225:	256:	286:	317:	347:
14:	14:	45:	73:	104:	134:	165:	195:	226:	257:	287:	318:	348:
15:	15:	46:	74:	105:	135:	166:	196:	227:	258:	288:	319:	349:
16:	16:	47:	75:	106:	136:	167:	197:	228:	259:	289:	320:	350:
17:	17:	48:	76:	107:	137:	168:	198:	229:	260:	290:	321:	351:
18:	18:	49:	77:	108:	138:	169:	199:	230:	261:	291:	322:	352:
19:	19:	50:	78:	109:	139:	170:	200:	231:	262:	292:	323:	353:
20:	20:	51:	79:	110:	140:	171:	201:	232:	263:	293:	324:	354:
21:	21:	52:	80:	111:	141:	172:	202:	233:	264:	294:	325:	355:
22:	22:	53:	81:	112:	142:	173:	203:	234:	265:	295:	326:	356:
23:	23:	54:	82:	113:	143:	174:	204:	235:	266:	296:	327:	357:
24:	24:	55:	83:	114:	144:	175:	205:	236:	267:	297:	328:	358:
25:	25:	56:	84:	115:	145:	176:	206:	237:	268:	298:	329:	359:
26:	26:	57:	85:	116:	146:	177:	207:	238:	269:	299:	330:	360:
27:	27:	58:	86:	117:	147:	178:	208:	239:	270:	300:	331:	361:
28:	28:	59:	87:	118:	148:	179:	209:	240:	271:	301:	332:	362:
29:	29:		88:	119:	149:	180:	210:	241:	272:	302:	333:	363:
30:	30:		89:	120:	150:	181:	211:	242:	273:	303:	334:	364:
31:	31:		90:		151:		212:	243:		304:		365: