in the control cage and the other pig from each litter was placed in
the treatment cage. The female litters were divided in a similar manner
and an effort was made to equalize the initial weights in the control
and treatment cages for each sex.

The four animals in each treatment cage received 80 milligrams of
stilbestrol-fortified premix daily in addition to the same amount of
the basic ration received by the animals in the control cages. Each pig in
the treatment cages received approximately 9 micrograms of stilbestrol,
mixed with its feed, per day. The experiment began June 7, 1955, and
ended August 3, 1955 (9 weeks). The gains, in grams, made by litter
mates and the differences in gains made by these litter mates are shown
in Table 56.

<table>
<thead>
<tr>
<th>Litter number</th>
<th>Initial av. wt. for litter mates</th>
<th>Control ration</th>
<th>Control plus stilbestrol</th>
<th>Difference between gains</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>286.5</td>
<td>308.3</td>
<td>156.2</td>
<td>54.1</td>
</tr>
<tr>
<td>2</td>
<td>260.3</td>
<td>321.8</td>
<td>197.6</td>
<td>60.9</td>
</tr>
<tr>
<td>3</td>
<td>267.2</td>
<td>274.2</td>
<td>197.5</td>
<td>76.9</td>
</tr>
<tr>
<td>4</td>
<td>304.0</td>
<td>268.5</td>
<td>260.0</td>
<td>8.8</td>
</tr>
<tr>
<td>Total</td>
<td>1173.1</td>
<td>868.7</td>
<td>304.4</td>
<td></td>
</tr>
<tr>
<td>Av.</td>
<td>298.3</td>
<td>217.2</td>
<td>76.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>242.0</td>
<td>265.4</td>
<td>220.9</td>
<td>47.5</td>
</tr>
<tr>
<td>6</td>
<td>288.2</td>
<td>202.8</td>
<td>155.1</td>
<td>47.7</td>
</tr>
<tr>
<td>7</td>
<td>300.5</td>
<td>149.3</td>
<td>97.9</td>
<td>61.7</td>
</tr>
<tr>
<td>8</td>
<td>345.2</td>
<td>227.3</td>
<td>135.7</td>
<td>92.1</td>
</tr>
<tr>
<td>Total</td>
<td>848.3</td>
<td>599.3</td>
<td>245.0</td>
<td></td>
</tr>
<tr>
<td>Av.</td>
<td>212.1</td>
<td>149.8</td>
<td>62.2</td>
<td></td>
</tr>
</tbody>
</table>

The gains were analyzed statistically and those made by the pigs
receiving no stilbestrol in the ration were significantly higher than
those made by pigs receiving stilbestrol. The males made significantly
higher gains than the females but the addition of stilbestrol to the
ration affected the two sexes similarly, as there was no statistical evi-
dence of a different response caused by sex. Among the animals re-
cieving stilbestrol an increase in toat length and size was observed in
both sexes as early as the end of the fifth week of the experiment.

The Effect of Stilbestrol Implants on Fertility in Adult Male Guinea
Pigs.

PROJECT 83

J. D. Wheat, C. S. Menzies, and L. A. Holland

July 6, 1955, two adult guinea pig males each was implanted with
24 milligrams of stilbestrol. A young female that previously had given
birth to a litter was placed in the cage with these males, but for some
time they showed no interest in the female. One male died during the
latter part of the summer but the other male remained in the colony
until February 25, 1956. The female was kept in the cage with the
implanted male and she gave birth to a litter about February 1, 1956.
The average gestation length in the guinea pig is 38 days so the im-
planted male must have recovered from the effect of the stilbestrol
and sired this litter by about November 24, 1955, approximately 4.5
months after the implant was administered.

This indicates that adult guinea pig males can recover sufficiently
from large dosages of stilbestrol to sire progeny.

Stilbestrol in a Guinea Pig Ration.

PROJECT 83

J. D. Wheat, C. S. Menzies, and L. A. Holland

This study was to determine the response of young guinea pigs to
stilbestrol added to the basic ration of ground oats, tankage, bonemeal,
ground alfalfa hay, and fresh-fried cut, green alfalfa. Eight litters of
guinea pigs, each consisting of two pigs of the same sex, were used.
These pigs ranged from 3 to 5 weeks of age and the initial weights
ranged from 220.7 to 368.6 grams. Four of the litters were males and
four were females. One male from each of the male litters was placed
in the control cage and the other pig from each litter was placed in
the treatment cage. The female litters were divided in a similar manner
and an effort was made to equalize the initial weights in the control
and treatment cages for each sex.

The four animals in each treatment cage received 80 milligrams of
stilbestrol-fortified premix daily in addition to the same amount of
the basic ration received by the animals in the control cages. Each pig in
the treatment cages received approximately 9 micrograms of stilbestrol,
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