Within the last five years, there has been an increased awareness within various agricultural entities of the potential hazards of grains and finished feeds contaminated by several species of fungi. This increased concern is largely due to the association of poor animal performance with the presence of select groups of fungal species and their toxins in the feed. For the most part, the problem is a regional one; however, it becomes more widespread when feed ingredients are shipped interstate. To our knowledge, except for a few isolated cases, no real problems with toxic feed have occurred in California, and there is no reason to believe a change in this pattern will occur. We should be aware, however, that we have a potential for the problem—that is, these species of fungi are present in California and, with proper environmental conditions, they can produce harmful toxins.

At present there is no list of laboratories available within California that private industry can draw from to have a suspect sample of feed or ingredient analyzed for mycotoxins. It was felt such a list would be useful if an emergency should arise. Starting in January 1978, more than 50 private laboratories within California were sent questionnaires to determine what mycotoxins could be analyzed for, the cost and time it takes for the analysis, and what commodities they would analyze. Other questions dealing with methods and accuracy limits were also asked. The University of California Special Publication 3924, "Commercial Analytical Laboratories in California Available for Agricultural Testing," compiled by James Quick, was used as a base point for the chain-letter-like technique used in this survey. Nine laboratories responded positively, all of which perform aflatoxin analyses; only two test for ochratoxin and one laboratory performs zearalenone (F-2) analyses. AgriScience Labs, Inc. of Los Angeles, indicating the widest analytical capabilities, say they perform multitoxin screening routinely.

The following list of laboratories is for your reference and was compiled from all available sources at the time of the survey. There may be additional laboratories other than those listed. Reference to commercial names is made with the understanding that no discrimination is intended and no endorsement is implied.

Douglas R. Kueny
Staff Research Associate
UC-Riverside

April 26, 1978

CALIFORNIA LABORATORIES ANALYZING FOR MYCOTOXINS
<table>
<thead>
<tr>
<th>City</th>
<th>Name and address</th>
<th>Toxin</th>
<th>Cost</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakersfield</td>
<td>ATS Laboratories&lt;br&gt;P.O. Box 3099&lt;br&gt;Bakersfield, CA 93309</td>
<td>Aflatoxin</td>
<td>$50-75</td>
<td>14 days</td>
</tr>
<tr>
<td>Brawley</td>
<td>GHT Laboratories of Imperial Valley&lt;br&gt;106 south 8th St.&lt;br&gt;Brawley, CA 92227</td>
<td>Aflatoxin</td>
<td>$39</td>
<td>3 days</td>
</tr>
<tr>
<td>Fresno</td>
<td>George Stanley&lt;br&gt;Dried Fruit Assn. of California&lt;br&gt;1855 So. Van Ness&lt;br&gt;Fresno, CA 93707</td>
<td>Aflatoxin</td>
<td>$35</td>
<td>1 day</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>Agri Science Labs, Inc.&lt;br&gt;2122 So. Granville Ave.&lt;br&gt;Los Angeles, CA 90025</td>
<td>Aflatoxin</td>
<td>$25*</td>
<td>2 days</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>Maytin Laboratories, Inc.&lt;br&gt;Atn. Ed Dehate&lt;br&gt;2800 Jewel Ave.&lt;br&gt;Los Angeles, CA 90058</td>
<td>Aflatoxin</td>
<td>$25</td>
<td>2 days</td>
</tr>
<tr>
<td>Orange</td>
<td>Henry Espoy Associated Laboratories&lt;br&gt;1815 W. Chapman&lt;br&gt;Orange, CA 92864</td>
<td>Aflatoxin</td>
<td>$25</td>
<td>2 days</td>
</tr>
<tr>
<td>Sacramento</td>
<td>Morse Laboratories, Inc.&lt;br&gt;1525 Fulton Ave.&lt;br&gt;Sacramento, CA 95825</td>
<td>Aflatoxin</td>
<td>$35</td>
<td>5 days</td>
</tr>
<tr>
<td>Salinas</td>
<td>Agricultural Services Laboratory&lt;br&gt;1328 Burton Ave.&lt;br&gt;Salinas, CA 93901</td>
<td>Aflatoxin</td>
<td>$35</td>
<td>3 days</td>
</tr>
<tr>
<td>San Francisco</td>
<td>Curtis &amp; Tomkins, Ltd.&lt;br&gt;290 Division St.&lt;br&gt;San Francisco, CA 94103</td>
<td>Aflatoxin</td>
<td>$50</td>
<td>3 days</td>
</tr>
</tbody>
</table>

*Also performs multitoxin screening at a charge of $55 per sample.
ANTIBIOTIC USE IN ANIMAL FEEDS

The current food press contains numerous editorials and news stories relating to the proposal of the Food and Drug Administration (FDA) to limit the use of penicillin and tetracyclines in animal feeds. Under the proposed ruling, these antibiotics would be restricted to written prescriptions of veterinarians for therapeutic purposes only; use of these drugs for growth promotion or increased feed efficiency would not be permitted.

Best estimates indicate 1.2 million kilograms of antibiotics are used annually for animal production. This approximates 40 percent of the total U.S. usage.

The FDA proposal has become a very controversial issue because of its political, economic, and technical implications. Proponents argue that there is a definite risk involved in the continued use of antibiotics as non-therapeutic levels in animal and poultry feeds. Resistant organisms become the predominant species in their environment. There is the possibility of transfer of "plasmid-mediated resistance" or pathogenicity to other organisms, which may then infect humans. Certain bacteria, e.g., E. coli, are known to infect both animal and man. Opponents of the FDA proposal, on the other hand, point out that these risks are largely theoretical and that over the past 30 years there have been no documented cases implicating the use of antibiotics in animal feeding with human disease. Furthermore, antibiotics have not lost their effectiveness in growth promotion and improved feed efficiency.

The economic impact of a ban on the non-therapeutic use of antibiotics is difficult to assess. For example, the raising of livestock and poultry in large, concentrated populations has been possible, in part, because of the prophylactic feeding of antibiotics to control diseases. If producers are forced to return to smaller, less efficient units, production costs could rise substantially.

The goal to separate certain antibiotics for human use only and reserve others for animal production is likely to be pursued for some time, even though such a plan has not worked successfully in Great Britain. For several years that country has operated under those provisions, but indications are that it has not reduced the quantity of antibiotics for animal use.

If penicillin and the tetracyclines are eventually banned as feed additives, there is the hope that other effective antibiotics would be developed to replace them. Because of the demand and dollar volume involved, the economic incentive to do so should be there.

M. H. S.
RECENT PUBLICATIONS

Why My Hens Stopped Laying, Leaflet 2108, Univ. of Calif. (27 pp).

Rabbit Handbook, Leaflet 21020, Univ. of Calif. (27 pp).

A Simple Instrument for Measuring Temperature Duration, Leaflet 2373, Univ. of Calif. (2 pp).

Shopping for Meat, Fish, Poultry, and Eggs, Leaflet 2406, Univ. of Calif. (7 pp).


Recommendations For Reduction and Control of Salmonellosis, Report of the U.S. Advisory Committee on Salmonella, USDA Food Safety and Quality Serv. (31 pp).

Proceedings of the Symposia on Infectious Bursal Disease (Gumboro Disease), Cobb, Inc., Box 240, Concord, MA 01742 (95 pp).

Egg Production Costs and Returns, FS-571, So. Dakota State Univ. (5 pp).


Layer House for 15,000 Birds, Plan No. 6189, Misc. Publ. 1358, USDA (2 pp).


Standby Electric Power Equipment for the Farm, WRAES 72, West. Regional Agri. Engineering Serv., Oregon State Univ. (2 pp).


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April 26, 1978