In defense of our 'turf'

The Legislature kept us busy

Bill Beeks, Legislative representative of the North Dakota Aviation Association and Harold Vavra, director of the Aeronautics Commission were kept very busy during the last three weeks of the legislative session testifying before committees and proposing amendments to bills which had adverse provisions in them. In most instances the bill sponsor did not intend to upset aviation needs but inadvertently did so.

The first bill brought about by amendments in a bill or in some instances, in a bill that did not even exist until everything after a bill and inserted entire sections. These changes are difficult to follow unless someone is looking into the matter practically every day.

House Resolution HCR-364 which directed the legislative council to study aerial application of pesticides in relation to possible mandatory requirements for chemical drift insurance was killed on the House floor vote of 75 against and 18 for.

One bill aimed at our certified air taxi operators

House Bill No. 1184 started out as a standard bill providing for travel expense adjustments for state employees. The bill before it got amended, possibly exactly what state employees could use certified air taxi commercial operators or other common air carriers including regularly scheduled flights by airlines and would be reimbursed for the amount actually and necessarily expended in the performance of official duties.

The bill passed the House intact. In the Senate it was amended to make several changes including deletion of the language which provided that state employees could use certificate air taxi commercial operators for travel and be reimbursed the amount actually and necessarily expended. The bill was amended and passed by the state senate before these changes were discovered.

Next House Bill No. 1184, as amended by the Senate, was on the House calendar for a three-day hearing before the Senate committee on Agriculture. The committee hearing this bill was held ad interim referred to the Senate Amendments to the Bill, pulled the bill from the calendar and recommended the appointment of a conference committee. The committee members from the House to meet with three members of the Senate State to resolve the differences between the House and Senate over the amendments.

Before the conference committee met on House Bill 1184, Beeks and Vavra were invited to testify before the committee which reiterated the original language about state employees' use of certified air taxi commercial operators for travel and be reimbursed the amount actually expended for such services. The amendments were accepted by the conference committee and House Bill 1184 was then passed by the House Senate and Senate with the final amendments accepted by the conference which included certificate air taxi commercial operators.

Four fuel tax bills caused no small amount of confusion

Both Bill Beeks and Harold Vavra were kept mighty busy keeping four fuel tax bills from inadvertently imposing a unconstitutional fuel tax on all gasoline and special fuels which includes aviation gasoline and jet motor fuel and being used for either township roads or for state or city roads.

The townships had two bills in the legislature, one which would have increased all fuel taxes one cent per gallon (Senate Bill 1222) and House Bill 1184, which would have increased all fuel taxes 5¢ per galen and used the additional revenue for township roads. Both bills provided that there shall not be any refunds for off-highway users.

Both of House bill passed the Senate or House chamber of origin and were being considered by the opposite legislative body, when it was discovered by Bill Beeks and Vavra that the unconstitutional feature would apply to both aviation gasoline and jet motor fuel as well. It was necessary for Beeks and Vavra to appear before the House and Senate Finance and Taxation Committees with amendments which excepted out from the unconstitutional portion of the tax both aviation gasoline and jet motor fuel used as well. These amendments were adopted by both the House and Senate Finance and Tax Committees.

During the last two days of the legislative, both Senate Bill 2232 and House Bill 1184 were killed because the legislature had passed both bills with a new bill to replace those two bills.

In the closing days of the legislative session House Bill 1395 was amended by the Senate State into a fuel tax bill by striking everything after a bill and inserting new language after a bill which increased all fuel taxes three cents per gallon from 8 to 11 cents per gallon on all gasoline and special fuels with a provision that this revenue was to go to the State highway fund and to township roads. This bill was worded to exempt aviation gasoline and jet fuel motor from the added three cents per gallon. House Bill 1395 was not printed until it was on the Senate floor for debate and final passage. Upon getting copies of House Bill 1395, it was discovered by Bill Beeks and Vavra that Chapter 97:21 of the Century Code would impose a 20 percent excise tax on the sales price of all jet motor fuel which is exempt from the added three cents per gallon tax and put this revenue into the highway fund for roads. Beeks and Vavra convinced the lawyer for the legislative council, who had drawn the bill and the state tax department, that the bill had to have additional amendments to avoid this from happening.

This error was discovered about 2:00 p.m. while the Senate was in Session and debating House Bill 1185 for final vote. The Senate was advised of this technical error. The bill was then moved to the bottom of the calendar while further amendments were worked out by Beeks, Vavra and Lawyers for the legislative council to remove this error.

By 5:00 p.m., that same afternoon, House Bill 1395 was reprinted with those amendments distributed to the Senate while it was still in session. The Senate State passed House Bill 1395 that same afternoon at about 5:30 p.m. and sent it to the House of Representatives on Friday. The corrective amendments were in order.

The following Monday, both the House and Senate decided to scrap that part of House Bill 1395 which increased the three cents per gallon with the House sending the bill back to the Senate for further amendments.

The Senate the following Tuesday amended House Bill 1395 to provide for the State Highway Fund by providing that one percent of the gross value at the well of crude oil and gas extracted at the well-head shall be used for providing additional funds. The amendments eliminated three cents per gallon additional tax on motor fuels.

To provide funds for township roads, the final amendments to House Bill 1395 provided that one cent out of the eight cents per gallon present tax on gasoline and special fuels that is subject to refund for off-highway use shall not be refundable. Bill Beeks and Vavra met with the legislative council lawyers to make certain that proper language was used in this final amendment which does not reduce refunds by one cent per gallon on aviation gasoline or jet motor fuel used by aircraft or otherwise use any aviation fuel taxes for township roads.

The final amendments to House Bill 1395 put together on March 15th was the final version of the bill that the Senate and House and was signed into law by the Governor.

John Baker says:
"We preach to the choir instead of telling our story to the public"

By Patricia J. Eaton

John Baker, president of the Aircraft Owners and Pilots Association, urged the North Dakota aviation industry to tell its story to the general public. Speaking at the winter North Dakota Aviation Association annual meeting in Bismarck, Baker said, "We preach to the choir instead of telling our story to the public."
The Airport-Airways Act revenues have been diverted to other purposes

Cont. From Page One

program to provide for airports. The aviation industry worked hard to get the Airport-Airways Act of 1970 passed and then saw that revenue diverted to other purposes.

General Aviation serves 14,000 airports in this country, he continued. These airports are the veins and capillaries of the overall system. Commercial aviation is limited to a small number of major airports.

With the expiration of the Airport-Airways Act, now is the time to start for a clean slate and make sure a new act appropriates funds for development.

General Aviation has fared better under state grant programs, Baker continued. The Reagan philosophy of returning more authority to the states has many advantages for general aviation. However General Aviation must stress the important role it plays in state transportation systems. Otherwise the grant money may be spent only on commercial airport developments.

The key thing to remember is the need for funds for development not maintenance of existing facilities.

The network of regional-and feeder airports into the large population centers must be maintained and improved. If General Aviation loses access to its important population centers, the entire utility of General Aviation is impaired.

In 1979 state grants put $304 million into General Aviation airports while the Federal monies totaled only $17 million.

AOPA supports block grants airport development on the state level. The organization also supports de-dedication of major airports. "These airports get enough revenue off their own activities." Geography in areas like North Dakota demands a good 3 General Aviation system for prime transport due to the time and distance factors.

General Aviation is seeing an evolution in the industry. Economics now demands not only money to participate but dedication by participants to spend that money in General Aviation. The numbers of young students and pilots with that commitment are up.

Furthermore General Aviation is now seen more for its utility than as a sport as in previous years. All this means a new audience is rising in General Aviation and groups like the North Dakota Aviation Association will have to meet the needs of that group.

"We'll see a slowing of the regulation frenzy in Washington under the Reagan administration."

"If there is any place where the Reagan administration can start to fulfill its promise of 'getting government off our backs,' it is in the FAA regulatory actions."

There was a last minute dumping of regulations into the federal register by the outgoing Carter administration. New aviation regulations cannot be justified on safety requirements, according to Baker. Last year was one of the safest in airline history. There was also a decline in General Aviation fatalities and fatal accidents. In fact it was the best year in 35 years.

"We asked three years ago for 'zero based regulations.' We may not get 'zero' under Reagan but the expectations are that there will be a slow down.

Aviation is facing potential conflicts and challenges. There are serious capacity problems at big city airports. The manufacturing industry must face more squarely the question of 'lower end of the line' planes. Deregulation is leaving many communities without airline service.

Officials with no interest or information on the role of General Aviation airports have the authority and are using it to close local airports.

"We must fight to keep and expand the hub airport system. We must join forces with others who are interested.

Airlines want to get out of hub airports if they are not economical for them. We must watch any action that effects our accessibility to airports and a complete system of airports."

AOPA is working to get visibility and understanding of General aviation within the public. "We are helping to build local, regional pilot groups and a network of regional representatives."

"We must work together to demonstrate need for airport facilities. We can't lose the ones we have. We need more."

"All of us in aviation must be involved with politics on all levels - local-state and national."

It usually works best to solve problems on the local level, he noted. AOPA has set long term goals "Some of the areas AOPA has set up as general aviation needs are: -crashworthiness -minimum airspace for VFR -safety corridors at major airports -deletion of public use areas at private airports -expansion of satellite airport 'development program' -mandatory radio advisories when requested by the pilot."

In concluding, Baker stressed, the "burden of getting favorable general aviation regulations to pass will fall on all of us. With more than 350,000 members, AOPA is now at its strongest point."

Get Broad Coverage ...
Before Congress

Aviation industry lobbying groups were sharply criticized last week for their failure to reach agreement on aviation matters pending before Congress. Sen. Black (D-Tex) and Rep. Samuel, (D-Calif) administrative assistant to Rep. Sam B. Hall, Jr. (D-Tex) and Ron Gering, House aviation subcommittee chairman, told a joint session of the Senate Agriculture Committee that their two groups were one reason key legislation like the Airport Development Aid Program (ADAP) have not been acted upon by Congress. "If there is one overriding thing about industry, it’s selfishness," Black said. "I have never seen an industry so helplessly divided against itself. Everybody wants their own little slice and nobody can get together."

Gering and Black noted that during recent hearings before the Senate aviation subcommittee, there was wide disagreement among various trade groups on how a new ADAP program should be configured. They said even though some of the formal written statements that were helpful, some reports of organizations that participated in those statements later were contacte staffs to argue different points of view and have a potential for becoming less segmented.

A plan to plant now and feed later

For some airports, winter '85 never arrived and that may leave a few extra bucks in the maintenance account due to less spent on snow removal. If so, what a time to want a little extra on turf maintenance.

Almost everyone believes that the most critical phase of flight in a light twin engine aircraft is the take off and immediate climb phase. If an engine should fail during this critical phase of flight, there are several decisions that have to be made almost instantly and without error. One of these decisions is whether or not to land or to attempt a single engine return to the field. This decision can be complicated by all kinds of added variables such as visibility, wind, runway surface condition, etc. It is vital you make your decision as soon as possible and stick to it. Imagine the confusion that can exist in the pilot’s mind when he is faced not only with a serious emergency, but a momentous decision as well. Even our marvelous computers might have trouble taking the right course of action in the time available.

One procedure that can be used to lessen the confusion, should you ever be faced with an engine failure on take off is to make your decision prior to commencing the take off roll. Consider the weather conditions, the runway length, the terrain at the far end and any other factors that would affect your landing straight ahead or continuing flight. When airborne, retract the landing gear if possible at your decision point. By doing this, you have eliminated one point of confusion if an engine should fail. Prior to gear retraction you land straight ahead; after gear retraction you treat the engine failure as an in-flight emergency.

Thanks for helping in the legislature

I worked closely with Mr. Vavra at the legislature this year and for that I am chosen to write a complete report for the Relative Wind. The nature of the bills required your representatives attendance at nearly half of the legislative session in order that the bills would be closely followed.

I would like to thank those who in support to kill the bill on requiring liability insurance. I would also like to thank those who have supported the efforts of NDAA with their memberships.

I am urging those of you who are not members to join NDAA NOW! We need your support in order to continue to serve the better in North Dakota.

The next legislative session is two years away, but I feel certain that there will be another attempt to require draft liability, to increase the fuel taxes and possibly other legislation that may inadvertently affect some of us in our business.

There is no free lunch in this world and without your support, we may not be able to protect your interests to the extent that we should.

For your own benefits, join NDAA NOW. It is in your own best benefit.

Sincerely,

William A. Rooks
General aviation around the state

VELVA...is reviewing two possible sites for airport development. The community has a definite need for air service with the Industrial Sunflower processing plant construction.

BEULAH...plans to bury a 12" power line located 300' on centerline from the BEULAH runway end. The buried project would improve the approach slope since the airport already lies within a river valley. They may also develop zoning ordinances too.

TIOGA...plans to revue runway lights with a bivolar cable. Spring time weather has allowed them to install a new lighted wing cone.

We understand the business aircraft service needs.

John Breithaupt, Chairman of the Oakes Municipal Airport Authority announced a flight breakfast, air show and airport dedication at the new Oakes Municipal Airport on Sunday, June 7th. The breakfast is scheduled from 8:00 a.m. to 1:00 p.m. Airplane and hot air balloon rides will be available.

BROMINAL® and BROMINAL PLUS broadcast herbicides can control tough weed seedlings that resist 2,4-D-like wild buckwheat, sunflowers, and Kochia. You get over 40 broadleaf weeds in all! And yet, there comes a time to control them—BROMINAL can be safely applied from grain emergence until weeds are in the 3-to-4 leaf stage. BROMINAL PLUS begins at the beginning of tillering up to the boot stage. You conserve precious moisture and nutrients by controlling weeds early, and that helps build top yields.

BROMINAL herbicide can also be tanked with 2,4-D and MCPA-tank mixed or satters for wider spectrum broadcast control. Both BROMINAL and BROMINAL PLUS herbicides can be tanked with Avenex® for wild oat control. And both can be tanked with liquid fertilizers. BROMINAL and BROMINAL PLUS broadcast herbicides—are they an investment that really pays off at harvest.

Oakes slates fly-in

Stop wild buckwheat, sunflowers, and Kochia in wheat and barley.

According to Leo Rue, Manager of the Oakes Municipal Airport, the air show will take place between 12:00 noon and 1:00 p.m. with the airport closed between 12:00 noon and 1:00 p.m. Bob Schwerdtner, Sr. of Ernie, North Dakota will perform during the air show in his Pitts Special. Also there will be sky diving. The airport dedication will take place about 1:00 p.m. The airport will be dedicated in the memory of the late Willy Johnson, an early pioneer who pushed for a new airport at Oakes. The new Oakes Municipal is located 2 miles north of Oakes with access to N.D. Highway 1. The new airport was constructed at a new site with both Federal and state aid funds and has a paved runway 3,500 ft. by 66 ft. (13-30 runway) with paved apron, taxiways and paved access to a hangar area.

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1973 G-144A B-1340
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1971 G-144A B-1340
1977 TACO II, 55 F.S., Direct Drive Starter, 600H.P. 3,300 long. 10 foot wide, 22 foot long, 9 foot high, 13,000 lbs. Weighs, 1550 lbs. Landing Gear, Fallaway Tail, Tail Flap, Canopy Holder, Prop, Radio, Tach, Oil, Water, Fuel, $85,000.00

1969 G-144A C-1340
1971 TACO II, 55 F.S., Direct Drive Starter, 600H.P. 3,300 long. 10 foot wide, 22 foot long, 9 foot high, 13,000 lbs. Weighs, 1550 lbs. Landing Gear, Fallaway Tail, Tail Flap, Canopy Holder, Prop, Radio, Tach, Oil, Water, Fuel, $40,000.00

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Relative Wind

LAKOTA...is getting some bids for an overlay job of their runway and taxiway. The double mirror seal coat was very soft this spring and caused the airport to be closed in the spring thawing period. Lakota has no 80 Oct. fuel available and the airport is unattended.

COLUMBUS...some construction is being planned south of the runway. Plans were drawn up to insure that the approach to this runway is not obstructed.

GARRISON...is looking at some concepts for hangar development on their airport. They are reviewing the T-hanger, portable hangar, large multi-unit hangar and revolving floor unit hangar concepts.

WATFORD CITY...may purchase a single tube 3 bez SAVASI System for one runway end. This SAVASI system would air pilots in giving them a visual approach slope guidance to the runway end. A hill to the south of the airport may be hazardous on approaches during the evening. The estimated cost for one runway end SAVASI system would be $8,000.

MAYVILLE...plans to rework the runway and are making grant applications for State aid.

MOTT...is requesting aid for crack sealing. Now is the time to get the cracks filled. If your airport plans on filling your cracks, get in contact with the N.D. Aeronautics Commission to see what type of material to use and for State 50 percent matching grant applications.

ELLENDALE...plans for a seal coat job on the runway to coordinate with the city's asphalt projects. Airport maintenance and construction costs can be reduced by combining airport projects with local city work or highway projects.

WASHERUN...is looking at costs for developing an all-weather surface on the airport. The turf was very soft and wet this spring and was closed at times. Please check before using if rainstorm develops in this area. Moisture has not been short last fall and winter.
The North Dakota Aviation Association recently completed their annual meeting in Bismarck with miserable showing of attendance and membership renewal.

The work of NDAA more often than not goes unnoticed and understated by those who are getting away with the effort in controlling the destiny of the aviation community in our state.

This, apparently is not good enough for many in the aviation community. It seems that some folks want to know what they are getting from NDAA. The following is a small sample.

Benefits
1. Two (2) 12-month memberships to NDAA for the education of agri-chemical experts who can defend and pursue the use of agri-chemicals and their application by aircraft.
2. In the recent session of the legislature, killed action on liability insurance for chemical damage.
3. Monitoring efforts calling for moving the Aeronautics Commission into a DOT concept thus losing its identity.
4. Is monitoring the fuel tax issues and opposing any increase to aviation fuel taxes that will go toward highway and lower road transportation.
5. Moving forward, with the support of NDAC, with the payment to airport fund of $90.00 per gallon of jet fuel sales now going into highways, annually.

During the legislative session, your NDAA past president, Bill Beeks, literally lived in Bismarck so as to monitor all legislation coming down that would affect airplane owner in our state in the form of more taxes, more difficult operating environment and more expensive operational requirements.

This cannot be done without paying the piper. We need your membership to support these and other programs. There are a group of 128 new members out there someplace that we need to get on board and get the support from so that our future can be protected to some extent. We cannot do what needs to be done without a united front. It has cost the national aviation community millions to elect to go the separate ways of splinter groups, we in North Dakota do not have millions to play with.

The North Dakota Aviation Association is recognized in the political world of North Dakota. It has some stature with our elected officials and can do as much as any group to enhance and protect the future of the state aviation community.

I ask that you consider honoring the invoice that you have received for your 1981 dues. Doing so will allow the Board of Directors an opportunity to serve you.

Sincerely, Jack

Join NDAA!

Please complete all information pertaining to you:

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<th>Membership Type</th>
<th>Dues</th>
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Watford, N.D. 58675

Weather 'WATTS' line

The FFA introduced state wide pilot weather briefing and flight plan service inward watts line No. 1-800-723-4977 on March 5, 1981 to Grand Forks Flight Service Station.

Pilot Note: This service was introduced to provide weather and flight plan service to all pilots in the State. All amateur and local and service will remain and pilots are urged to use local and amateur lines where available for briefing and flight plan as only one line is available for watts for Grand Forks.

This service will benefit all pilots in North Dakota. Let us use it when needed but not when local service is available.

One word of caution: When flying a flight plan from 800 watts number to Grand Forks, you must advise local service when in radio contact to open or close your flight plan and that you already filed with Grand Forks Flight Service by phone.

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Weather Forecast

Temperature

Cold Front Moving Through

May 1981

Relative Wind

Page 5
Fewer chemical companies are producing fewer new pesticides

The farm pesticide industry seems to be following a trend common throughout agriculture: increasing concentration.

Fewer chemical companies are accounting for a larger share of the business, and fewer new pesticide products are entering the market, says USDA economist Ted Eichers.

In 1966, the top four firms in the industry accounted for 33 percent of farmers' total pesticide purchases. Ten years later, the top four had 50 percent of the market.

Greater market concentration, Eichers says, is tied to rising research and development costs and increased government regulation of pesticides to protect health and the environment. These same factors also contribute to a smaller selection of new pesticide products.

Greater concentration is tied to rising research and development costs and increased regulation.

In the last decade, the number of chemical compounds that companies tested to find marketable pesticides rose dramatically—from an average of 5,500 yearly in 1967-70 to 84,000 yearly in 1976-79.

However, in the same period, the average number of new pesticides registered fell from 10 to 2 per year. Registration rates per active share of the less costly, broad-spectrum compounds fell from 4 to 1. What's wrong, according to research and development costs.

Problems with Simpler Pesticides

Companies need much more time and money to discover safe, selective, chemically complex pesticides than to find simpler, broad-spectrum compounds produced during the 1960s. That's why spending per new product introduction will probably remain below 1960s levels.

In the late 1960s, the 30 leading pesticide manufacturers together were spending about $60 million a year on research and development. By the late 1970s, the figure had shot up to $250 million.

At the same time, the average lag between discovery of a pesticide and its registration lengthened from almost 6 years to more than 9, according to an industry survey.

The net effect: Only a company with a foothold in the market and a very strong capital base can afford to see a pesticide through the long, expensive, and uncertain process from laboratory to marketplace.

Patent expiration gives smaller companies their main crack at the market. They can begin manufacturing a leading pesticide under a new brand name, avoiding the research and development costs they can't afford, and passing some of the savings on to farmers.

Otherwise, the barriers that prevent an aspiring company from undertaking production of new pesticides are formidable. According to Eichers, these include "the high cost of research and development, the specialized personnel and equipment required, and the risk that a firm may screen thousands of chemicals without finding a single new pesticide."

Further Market Concentration

Risks are not likely to diminish, and research and raw material costs will continue to increase. The result, Eichers says, will probably be further market concentration and fewer firms devoting large expenditures to new pesticide development.

Up till now, the trend doesn't seem to have disproportionally raised pesticide prices to farmers. Eichers says. Indeed, during the 1970s, pesticide prices climbed at a slower rate than other farm inputs.

However, this favorable price situation may soon end. Pesticide prices have been high relatively low largely at the expense of formulators and distributors—the middlemen who mix and package basic pesticide ingredients into ready-to-sell preparations and get them into farmers' hands.

But this price equilibration has largely disappeared. As a result, manufacturers' cost increases will likely be passed directly through to farmers in the future.

The degree of market concentration in the industry could work either to bolster prices or keep them down in years ahead.

On the one hand, companies with a big share of the market often have lower costs per unit of output. Also, when producers are assured of a certain level of sales, they can plan of a certain level of sales, they can plan for optimum use of their production capacity, cutting costly waste. Eichers found that "the pesticide industry has been more efficient in plant use than the chemical industry as a whole."

Nevertheless, as the farm pesticide industry grows even more concentrated, there's always the danger that manufacturers could adopt a marketing strategy detrimental to farmers—reducing output and driving up prices.

Producers Still Competitive

But, so far, Eichers says, there's no evidence that pesticide manufacturers take their farm customers for granted. Today's market conditions, he says, provide a king-of-the-mountain pattern of competition.

A pesticide that's a leader one year may tumble to relative insignificance a few years later because of past resistance, the introduction of a superior product, government regulation, or a combination of these.

Since manufacturers' sales tend to be centered on one or a few compounds, a firm that loses its best-selling pesticide may lose its market dominance.

For example, in 1967, aldrin was so widely used to control corn rootworm that the compound's manufacturer was second in the industry in farm insecticide sales by quantity. But the Environmental Protection Agency banned use of aldrin in 1974, and the producer fell below fourth place by 1976.

Consequently, firms have to invest continuously in research and development to ensure that they'll be ready with replacements when leading products lose their market share. These competitive pressures encourage new and better products as well as pricing practices that result in lower prices.

However, as Eichers points out, prices are often set at the level a small share of total chemical sales of most manufacturers.

If climbing costs start squeezing profit margins or testing and registration requirements become too burdensome, some of the large chemical companies' who provide basic pesticides might convert to other products, he says. The result could be less competition and less incentive for manufacturers to meet farmers' needs at reasonable prices.

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Computer program predicts job profit

Where the hand calculator replaced the slide rule, the pro-
grammable calculator is replacing the hand calculator as a tool for improving
management decisions. A company in Las Vegas, Nevada that will
determine job time and profit for each aircraft (or ground rig) so that the
most profitable craft can be chosen for a given job situation.

No Special Training

The Ag-Air Computer System, from Agrinautics, does not
require extensive training for operation. Input numbers are
keyed-in by a keyboard overlay with color guidelines
and names on the keys. As the input numbers are entered, the
printer prints out the item name and input number. When all
the input numbers are entered, the operator hits the
compute button and the printer gives the following results:

- COST PER ACRE ($)
- JOB LOADS REQUIRED (NO.)
- JOB RUNS (NO.)
- WORK UTE (A/HR)
- JOB TIME (MIN)
- JOB PRICE ($)
- JOB COST ($)
- PROFIT LOSS (%) (NEGATIVE, PROFIT, POSITIVE)

The printer also signals the operator if the last swath is par-
tial so he can make suitable ad-
justments to avoid an extra
pass or running out of material.
For the new operator, the op-
erator instructions for the
pre-programmed calculator system tell him what ad-
justments in operating condi-
tions can be made to improve
his profit.

The printout in figure 1 demonstrates the effect of
changing the run length from 25 miles to 50. The
subsequent computer output reflects this change.

Significant Variable

A change of run length is one of the most significant factors
in job time and job profit under most conditions. Note that in
the example, a change of run length from 25 to 50 without an
increase in price brought the expected profit from a negative
figure to 35.3%.

In figure 2, the profit has been fixed at 25% and the
computer output tells the operator what he should charge for dif-
ferent application rates to maintain this profit.

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computations and automatic payroll computations.

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FIGURE 1: Expected profit
for different run lengths
at the same price per acre.

AIR/SURFACE
JOB ANALYSIS

OPERATOR INPUT
VEH COST = 285.00/HR
SWATH WIDTH = 66 FT
APP SPEED = 115 MPH
FERRY SPEED = 125 MPH

MPH
TURN TIME = 22.75 SEC
LOAD TIME = 3.0 MIN
HOPPER LOAD = 300
BASE TO LOAD = 10.0 MI
LOAD TO FIELD = 3.0 MI
APPLY 1.00/ACRE
COVER 160 ACRES
RUN LENGTH = 0.25 MI
PRICE = $2.00/ACRE
END

JOB LOADS REQUIRED= 50
JOB RUNS = 80.0
WORK RATE = 146.1
AC/HR
JOB TIME = 67.79 MIN
JOB PRICE = $320.00
JOB COST = $322.03
PROFIT = -0.6%
GIVE JOB TO COMPTOR
END

CHANGE
RUN LENGTH = 0.50 MI

JOB LOADS REQUIRED = 50
JOB RUNS = 80.0
WORK RATE = 146.1
AC/HR
JOB TIME = 67.79 MIN
JOB PRICE = $320.00
JOB COST = $322.03
PROFIT = 35.3%
END

FIGURE 2: Job price re-
quired at various application
rates in order to main-
tain 25% profit.

AIR/SURFACE
JOB ANALYSIS

OPERATOR INPUT
VEH COST = 285.00/HR
SWATH WIDTH = 66 FT
APP SPEED = 115 MPH
FERRY SPEED = 125 MPH

MPH
TURN TIME = 27.2 SEC
LOAD TIME = 3.0 MIN
HOPPER LOAD = 300
BASE TO LOAD = 10.0 MI
LOAD TO FIELD = 3.0 MI
APPLY 1.00/ACRE
COVER 160 ACRES
RUN LENGTH = 0.25 MI
PRICE = $2.30/ACRE
END

JOB LOADS REQUIRED = 50
JOB RUNS = 80.0
WORK RATE = 155.1
AC/HR
JOB TIME = 61.91 MIN
JOB PRICE = $294.10
PROFIT = 25.2%
END

Computer program predicts job profit
A few steps to help keep working relationships with beekeepers

Introduction: In recent years there have been an increasing number of cases of honeybee kill in North Dakota, particularly throughout the corn-growing and sunflower-producing areas of southeastern and eastern central North Dakota where sunflower insect problems have necessitated considerable control efforts. These bee losses are not only critical to sunflower producers who depend upon bee pollination for maximum yields but, more importantly, these losses have been especially unfortunate for commercial beekeepers who depend upon maximum colony strength for high honey production.

The following information is intended as a guideline of points to keep in mind when you are called upon by your farmer-customers to engage in spraying of crops, such as sunflowers, that are highly attractive to bees. Please be aware of those guidelines and make every effort to hold bee losses to a minimum. By doing so you will help to insure continued good working relationships with farmers and commercial beekeepers as well.

1. Whenever possible, select insecticides that have low hazard to bees. (Information on pesticide classifications for bee kill potential is available through the Entomology Department at NDSU.)

2. Timing of insecticide application: a. Never spray a crop in bloom unless it is absolutely necessary. b. If spraying a crop in bloom is necessary, do the spraying when there will be minimal bee activity in the fields preferably during the evening hours whenever possible. During most summer evenings, honeybees leave fields by 4:00 p.m. and do not begin to return until 6:00 a.m. or later.

3. Modify control programs according to weather: a. Cold temperatures prolong the residual of insecticides whereas warm temperatures break down insecticide more rapidly.

b. Warm temperatures in late afternoon, early evening or early morning can "hold" bee activity in blooming fields for longer than normal periods.

c. Pay attention to wind direction and velocity as this relates to bee yard locations in proximity to fields that are to be sprayed with insecticide.

4. Applicators who are unsure of where bee hives are located should find out by: a. Consulting with farmer-customers. b. Obtain maps of bee yard locations within intended spraying areas (contact North Dakota Department of Agriculture in Bismarck; Phone No. 701-224-2222). Allow 1-2 weeks for maps to be received. Pollination sites are not shown on these maps.

5. When spraying in close proximity to bee yard locations and the hives (for one reason or another) be moved or covered, use a drift reducing additive (such as Nala-Trol) to minimize insecticide drift to the hives.

Another case of 'the one who yells the loudest gets taken care of first'

All over the U.S., environmental activists are demanding the banning of 2,4,5-T based on the evidence that it increases the chances of developing tumors.

However, Dr. Richard Wilson, a Harvard scientist, recently calculated the risks associated with the spraying 2,4,5-T and found that this is not the case. If a person worked at applying 2,4,5-T with a backpack sprayer for five days a week, four months a year for 30 years, his/her chances of developing a tumor would be 4 of a million.

In comparison, other risks associated with developing a tumor are:

- Smoking cigarettes: 1,200 chances per million
- Being in a room with a smoker: 10 chances
- Eating 1/4 lb. charcoal broiled steak per week: 0.4 chances
- Drinking one can of diet soda with Saccharin per day: 10 chances
- Drinking milk with aflatoxin or four tablespoons of peanut butter per day: 10 chances
- Sunbathing: 5,000 chances

With reliable data like this it is hard to understand why society puts up with one issue, self-interest groups. Maybe we are reverting to a childhood behavior, where "the one that yells the loudest usually gets taken care of first."
All pesticides have drift potential; and drift costs someone some money

Spraying droplets under 150 microns in size when using a water carrier is probably just wasting an aerial applicator’s time and materials, according to Larry Jacobsen. In addition, he is more likely to be causing pesticide drift. Jacobsen, plant pathologist with the University of Illinois, was the keynote speaker at four southeastern ag aviator fly-in clinics sponsored by Chevron Chemical Company.

Droplets under 150 microns, notes Jacobsen, will generally just evaporate and then drift away. Droplets should not be too large, though, because the applicator will not get effective coverage with the material he is spraying. The ideal droplet size for effective coverage and fewer drift problems is between 200 and 400 microns, he says. “If you look at the size of a micron — it is approximately 1/25,000 of an inch — then a 200-micron-sized droplet is approximately 1/500th of an inch, which is not really big at all.”

Two factors directly affect droplet size, notes Jacobsen. They are the orientation of the nozzle orifice to the wind shear and the pressure that is generated from the orifice. “Keeping the pressure down to 20 or 30 pounds per square inch,” he says, “and setting the nozzle 0° relative to the wind shear will help produce larger droplets.”

Jacobsen also points out other factors relating to drift problems. He says that pilots could reduce over 90% of their drift problems if they sprayed when:

• The temperature is under 75°F;
• The relative humidity is greater than 60%;
• The wind velocity is less than 6.2 mph; and
• Less than 4.5% of the droplets are under 100 microns.

Other recommendations Jacobsen makes to further aid in drift control are:

• Adjust nozzle height or boom height to 6 feet above the crop for best deposition and control;
• Place nozzles asymmetrically to give more uniform coverage; and
• Place the boom in an area where the air is moving relatively uniformly, which, in most cases, is down and back from the trailing edge of the wing.

The purpose of the fly-ins, according to Tony Rutz of Chevron, is to give pilots the latest information on better application techniques. This can help them control drift while still getting effective coverage. “As a major supplier of a variety of pesticide products, we at Chevron want to help pilots reduce drift as much as possible,” Rutz says.

“All pesticides have a drift potential,” he says, “and drift always costs someone money, regardless of the pesticide involved. With a contact herbicide, drift injury is readily apparent on adjacent green foliage. With insecticides, the problem is not as visible, but can still be serious. When insecticides drift, the farmer is wasting money and reducing his effectiveness by getting less than the full rate of material on the target crop.”

Deadline for aircraft registration

Friday, May 15th is the deadline for state registration of aircraft for 1981, according to Harold G. Vavra, Director of the State Aeronautics Commission. Vavra estimated as of mid-April, that there are still over 400 civil aircraft owners in North Dakota who have not applied for their 1981 state registration, which is required by State law.

In the event you have not received an application form or have mailed your form, please contact the Aeronautics Commission office by calling 224-2748.

Aircraft registration applications postmarked after Friday, May 15th are subject to delinquent penalties, Vavra said.

When Pigeongrass and Broadleaves threaten spring wheat...

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May 1981

Page 6
Vegetarian geology

Allen Linderman, Carrington, a member of the N.D. Flying Farmers Association wrote a letter in January, 1981 to Harold G. Vavra, Secretary of the N.D. Flying Farmers about a new book authored by him.

Allen Linderman has written and published a 74-page book titled: "Vegetarian Geology - Is It a True Concept?". Allen says in his letter that this book represents a life time of study and research. He said it took him over 8 months to write this book. That it is both interesting and educational.

Attached to the book is a summary which bey the important issues covered by the book including:

1. From the introduction to the last paragraph, it will hold your interest.
2. Attachments to the book is a summary which bey the important issues covered by the book including:
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   1. From the introduction to the last paragraph, it will hold your interest.
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3. Are coal, oil and carbon really a combination of vegetation and animal life? This book answers this question.
4. There is a carbon and mineral ring all of the way around the earth, even under the oceans, not contiguous, as on land. If so, these beds had to be laid before the oceans were.
5. Oil and gas are now found thousands of feet below localization. Fossilis are found in many kinds of rock and clay, a few in coal and oil. Which did they make, clay, rock or carbon? Or was the coal, for example, of the same origin as the limestone in which they are found.
6. How could vegetation place these beds of different gravity and kind of coal, oil and gas, miles into the earth?
7. Will oil be found as deep as 50,000 feet deep? This theme shows it may.
8. Over 80 years ago, it was proven the earth and all planets in the solar system once had a ring system. Also rings on Saturn would be ecumenic, Linderman believes that be empty would have something in them.
9. The theory the earth was the center of the cosmic held away for nearly 17 centuries. Copernicus, Kepler and Galileo disagreed, saying the sun is the center of the Solar System. The vegetarian theory will not live out this generation.
10. Since 1690, experts have been predicting the world is rapidly running out of oil. Is this true today? It is a shortage or a surplus of oil, and an energy crisis the same thing?

The summary of the book concludes "Read this refreshing new outlook on geology. It's the first of its kind in over 50 years.

Allen Linderman in his letter says that it has been his privilege to speak to a large group on his book sponsored by the Douglas Cooper Company of Los Angeles on the Queen Mary at Long Beach, California. The book is available in many book stores, according to Linderman at Bismarck, Fargo, Minot, Dickinson and others. The Flying Farmers material has read most of the book and will say that it is most fascinating to say the least and should be of interest to all persons interested in coal, oil and other forms of energy.

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Choosing

Some, but not all, crashes occur without warning, or when the aircraft is completely out of control. Others afford the pilot the opportunity for a choice as to where he can put the aircraft down. An airport is the best choice — if you are in trouble, go where you can get the most help, not the least. (121)5 declares an emergency and asks for guidance. If you are out of radar range of the air traffic service which is not likely, unless you are experiencing radio failure, immediately locate your position on a chart and see if this is within your range in the way of suitable landing terrain.

Probably the best means of improving your chances for surviving an emergency landing without injury is to practice the procedures regularly. You had to learn the procedure when training for your certificate, but have you retained that skill?
The real front door to your community

Enclosed is some information that may be useful to determine the value of your airport to the community. General aviation serves the community in terms of transportation, industrial and community service, etc. The transportation importance to a community is a movement of people and goods by air service. This doesn’t always mean big jets, but also smaller air taxi service and private business activity. The air cargo business is very big in the energy development areas of western North Dakota. The air taxi and commuter service will increase in use in the 1980s. Will a commuter land in Beulah in the future? Who knows what impact energy will have 10 years down the road. Business and corporate aviation includes 44 percent of all hours flown by general aviation. The main idea is to assure that your community is accessible to the vast aviation transportation system so that it will link your town to some 12,000 other airports around the country.

Some of possible industrial functions that aircraft perform are: agricultural seeding, spraying, and dusting; fish stocking and game enforcement spotting; utilities patrol; advertising, photography, mapping, surveying, and prospecting; construction such as placing transmission towers on power lines by helicopters; seismographing; livestock buying auctions; and others.

Goods transported by air include items:
1. High priority machine parts or materials needed in oil fields or farm machinery.
2. Bank paper delivered to the Federal Reserve Bank in order to obtain maximum interest.
3. Perishable cargo of fruits, vegetables, flowers and fish such as salmon from Alaska.
4. Remains of deceased persons or critically ill people, and mail and newspapers.

Such are the few items that we benefit from air service.

So build a community airport. We’re not suggesting a million dollar extravaganza with plush restaurants and 10,000 runways. It just has to be big enough for planes used by industry in your town. So when an industry comes to look for a site, your town is not overlooked. A town with an airfield is a town that gets industry. It not only attracts a new business, but it’s often a major company. If your town already has an airport, expanding it can likewise shrink your local unemployment roster.

Another benefit of a new or expanded airport is the air Nó patent air surveillance. These examples justify public subsidy to support and maintain airports.

Sport and recreation flying also is performed by individuals who own airplanes. It accounts for 28 percent of all general aviation flying. If your area has good fishing, water skiing, camping or parts, it calls for an airport. If your town wants tourism or recreation business, it calls for an airport. Air shows and community activity can take place on your airport which will improve public image of the airport and will contribute to community support of airport operating costs.

So let’s get it with and voice our opinion to show support for aeronautical activity. Have the local newspaper publish more stories of airport-operations, new pilots, or interesting people or business using the airfield. It seems the only news we hear of is an accident. Let’s get the good news across on how valuable the airport is to the community.
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