I was asked to discuss formula funding, but I have chosen to use the term base funding to represent both federal formula funding and state appropriations. Base funding represents the appropriated funds that come to every experiment station in the nation, and these funds have few, if any, strings or earmarking attached.

Our president, Dr. George Martin, published a presidential editorial in the Sept. 1990 ASHS Newsletter entitled, “Formula Funding” that nearly preempted this presentation because many of the arguments for formula funding made in his article also reflect my strong belief and philosophy for formula funding. The only major exception I take with his excellent editorial is in what I will call “administration bashing.” Our agricultural research system and our horticultural society does need good administrative leadership with strong hands-on research experiences and backgrounds. An indictment of research administrators as the sole problem with our research funding, research planning, and research management is not only unjustified, in my view, but it may encourage a widespread attitude of anti-administration that may deter many potentially good leaders from seriously considering administrative roles. Our horticultural society and colleges of agriculture need to cultivate, encourage, and train outstanding leaders for administrative positions.

Nearly every agricultural dean, experiment station director, or horticulture department head is strongly committed and supportive of base funding to his or her agricultural research programs. If that statement is true, then why do we have the current dichotomy between base funding and competitive grants? For example, why have there been more increases in competitive funding than base funding in the U.S. Dept. of Agriculture (USDA) in recent years? It has occurred because many bureaucrats and legislators (especially federal congressmen) prefer the competitive grant system over the block formula appropriation of research funds. Congressmen like it for several reasons. First, the peer review process has been sold as a process to fund the best science and scientists. Incidentally, support for the peer review process for publications and grants was largely initiated and encouraged by scientists. In addition, legislators can announce the competitive grant awards to their state clients. The
bottom line is that competitive grants are politically more acceptable to congressmen than formula, block funding to states or to Land Grant Universities. This is a legislative, political reality that is not easily overcome when we try to make the case for funding agri-
cultural research through the formula process.

Battling averages also become an important part of the perception and attitude of research administrators. Our system has been push-
ing federal formula funds and state appropriations for many years, but increases in federal formula funds over the years have not been
as dramatic as many of us would like, even though those funds still
form the base of our support for agriculture research at most of our
universities. When you go to the Congress year after year with
strong justifiable requests for additional formula funds and you get,
at most, only cost-of-doing-business increases, you begin to look
at all possible sources of funding for the research program.

Most agricultural administrators continue to voice strong support
for base funding, but they also encourage scientists to be aware of
outside grant funding that will support their research programs.
It is not a matter of placing one in preference over the other. It is a
matter of trying to take advantage of all sources of funds to support
a planned research effort. I view competitive grant funds as an
opportunity for scientists to strengthen their base-funded research
programs.

Base funding of agricultural research started nationally with the
passage of the Hatch Act in 1887. It provided a formula level of
funding to every state’s experiment stations and required a matching
amount from the state. This strengthened the concept and need for
state appropriations for agricultural research programs. Today, most
of our states are providing far more base funding to our agricultural
research programs than the federal formula provides. But the federal
formula funds are the glue that holds together our state experiment
research system in a major national agricultural research
effort that essentially is the envy of the world.

Base funding is absolutely essential if we are going to approach
solving many of the difficult problems facing agriculture in the years
ahead. There are indeed areas of important horticultural research
that do not currently lend themselves to competitive grant funding
and if we are going to do that essential research, we simply must
make the administrative decision to continue to do it with base
funding.

There are many advantages to funding horticultural and other
agricultural research through base funding (Martin, 1990). An
internationally known plant physiologist and horticulturist has stated
that “None of us could contest the high value and importance of
competitive grants and peer review. There is a danger, however,
that we can overload the research system with peer reviewing when
block funding of agricultural research can offer distinctive and timely
advantage,” (Leopold, 1989). Dr. Don Holt, director of the Illinois
Agricultural Experiment Station, recently has written a long thesis
on formula funding entitled, “Capturing the Vision: the Case for
Formula Funds.” Director Holt (1989) makes a strong case for
federal formula funding in his 16-page paper, and concludes by
stating “Formula funds address extremely important needs to support
a research infrastructure, provide continuity to programs, and
tap the great reservoir of scientists and administrative creativity that
extends on the front lines of the U.S. agricultural research system.”
While Director Holt’s paper only addresses the federal formula funds
system, everything he writes also would be appropriate for the
agricultural research funding we receive from our respective states.

Sometimes there is a misconception on the part of agricultural
scientists about how much base funding is supporting their individ-
ual research programs. Let me give you a real life, personal ex-
ample.

Recently, one of our experiment station scientists, a full profes-
sor, completed a rather large outside grant proposal. The guidelines
called for the identification of a total amount of funding that would
be available from the University to support the research effort if the
grant were approved. The figure he reported was $4,800. He simply
did not recognize the amount of base funding that was being pro-
vided to him and his program as being direct research support. His
$65,000 salary, his $26,000 technician, and his $11,000 graduate
student all were part of his formula research support. In addition,
there was a $25,000 piece of equipment that had been purchased
for his program six months earlier, and he had no charge access to
a state vehicle, station computers, and statistical counseling, the
library, photographic laboratory, laboratory space, managed field
plots, and all publication costs. These were all part of his direct
formula or base-funded research support. The only research support
he related to as support for his research program from the experi-
ment station and his department was the $4,800 his department head
had given him that year for supplies and travel.

Federal and state appropriations (base funding) for agricultural
research has been and still is the current base or cornerstone of all
our colleges of agriculture research programs. Every one of us needs
to work hard at supporting the continuation and expansion of this
support if we are to have the organizational structure and means of
attracting alternative means of research funding.

All sources of research funding are important. Base funding is
absolutely essential, but we also need a good, competitive grant
program specifically designed for agricultural research. The new
USDA Competitive Grant Program represented by “the National
Research Initiative” will provide such a program. Competitive grants
should add to or be supplemental to our base research programs. I
courage scientists and department heads to first plan their research
programs carefully, and then search for all possible sources of funds
to support that plan. The scientist working with the department head
must judge the specific research priorities and the research course
of action.

We at the Univ. of Georgia try hard to provide a base level of
support from appropriated funds to all scientists, but we also ask
them to accept some of the responsibility for generating the extra
level of funding that could move their programs from just being
good to being outstanding.

In conclusion, I would like to offer researchers 11 specific sugges-
tions that might be helpful for increasing total funding support.
1) Continue to be accountable for the research support you get.
That includes your salary. Be productive, publish your results, and
let people know what you are doing. Be a leader in your field.
Dramatic research accomplishments will do more to sustain and
expand base or formula funding than anything you or any of us can
do.

2) Evaluate your research program and your research interests.
Where does it fit? Who will benefit most? Is there an organization,
industry, or federal agency that would have an interest in the re-
search objectives you plan to pursue?

3) If you prepare funding proposals, do so in areas where you
know there is money for research support in your area of interest.
Shotgunning proposals to a large array of granting agencies usually
doesn’t work very well. Also, chasing dollars just for dollars is
unjustified.

4) If you do prepare a grant proposal, closely follow the agency
guidelines. Many research grants are never seriously considered
because the writer simply did not follow the guidelines for preparing
the proposal.

5) Don’t overlook the possibility of funding from other city, county,
or state agencies. Also, state commodity groups often are a very
good source for supplemental funding for your state and Hatch
projects.

6) Get advice and help. Talk with scientists who have been suc-
cessful in generating funding for their programs. Talk with your
department head about your ideas and make sure those ideas for
supplemental funding conform with your research goals and those
of your department.

7) Don’t get discouraged. Even the most successful faculty sel-
don get more than one proposal approved out of every three or four
submitted.

8) Keep those scientific publications coming. Nothing will sup-
port your funding requests for additional formula funds or for out-
side grants funds more than having a sound publication record. The
research data in your filing cabinets are of no help. Get them pub-
lished.

9) Look for opportunities for cooperative research with scientists

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in other departments. There may be a well-funded research program next door that has research objectives similar to yours, and it may need your talent.

10) Let your critical funding needs be known through your department head. Maybe your department head or experiment station director won’t be able to help you today, but tomorrow may be different. Most department heads and directors I know are especially receptive to helping new faculty get started in their research programs.

11) Be ready and be prepared. Funding opportunities often arrive with very short notice or deadlines. Don’t wait until you are asked if you need additional funding or until you have received the grant announcement on your desk. Have those equipment requisitions ready or research proposals outlined before you receive the notices.

One of the main purposes of a good administrator is to assist and help. Administrators and experiment station directors spend a lot of time and effort in promoting and justifying agricultural research to assure that we continue to get the base or hard money support; however, administrators cannot do this job alone. The success and outside recognition of individual scientist’s research programs will be the one most essential ingredient for selling the need to continue and expand base funding for horticultural research in the years ahead.

Literature Cited