

COTMAN: THE BOTTOM LINE

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The theme for this year's Cotton Research Meeting, "Research for Efficient and Profitable Cotton Production," could not be more appropriate. As cotton producers, we must become more efficient to stay in business, and I certainly hope that we can find some profit in the years ahead. This has been very hard the past 4 years with our erratic yields and narrow margins for profit. Under the theme of efficient and profitable cotton production, consideration must be given to minimizing risks lowering production costs, increasing production, and stabilizing yields.

COTMAN has been one of the most exciting and useful pieces of research that can be applied very quickly and efficiently. It can minimize risks, lower production costs, increase production, and help to stabilize yields. Arkansas's cotton research team is on the right track with COTMAN.

I began running COTMAN in 1993 on 20 fields with one mapper. I quickly saw the potential of this program and began to expand its use to all of my cotton fields (Fig. 1). By the 1999 crop year, we were mapping 105 fields with two mappers. My involvement has grown as my confidence has increased as a result of our own farm validation trials. In the last 6 years, we have conducted 15 replicated defoliation tests, 12 replicated insecticide termination tests, and other NAWF tests. This validation process has convinced me that COTMAN is performing as expected and can help us to become more efficient and profitable cotton producers.

We are currently running COTMAN on 6,100 acres, covering 105 fields with two mappers. When we total their salary and travel, two workabouts (data recorders) with a 5-year expected life, supervision and training, the total cost to run the program on my farm is approximately \$2.33 per acre (Table 1).

In our validation process, we were very concerned that using COTMAN rules for insecticide termination not detrimental to our yield compared to our usual full-season insect control. In eight field tests, with 52 replications over several years, COTMAN rules for insecticide termination resulted in a 10.9-lb average increase in yield when compared to full-season control, plus \$16.11 per acre savings on insecticide costs. If we use \$0.65/lb for cotton, COTMAN's net return was \$20.86 per acre. On the average, if a farmer saves only one late-season worm spraying, at \$9.40 per acre, minus \$2.33 in costs of the program, COTMAN's net return would be a savings of \$7.07 per acre. In my opinion, every farmer must take a look at this program.

COTMAN provides many benefits throughout the entire season. In early season,

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it gives a quick reference for final plant population, monitors fruit retention and small square set, identifies problem fields, and shows field progress (Fig. 2).

In mid-season, I benefit from the farm level report. It helps me to monitor the progress of the crop by reporting fruit shed and fruit load and identifying field problems (Fig. 3). This certainly helps me make efficient use of time when there just aren't enough hours in the day.

In late season, COTMAN provides benefits to the producer in addition to the insecticide termination previously mentioned. The late-season farm level report includes boll load, which aids in yield projection, insecticide termination dates, and ranks fields according to maturity, which complements defoliation scheduling tremendously (Fig. 4).

In the future, I can see the use of COTMAN for improving yield projections and irrigation termination as more research is conducted.

If a farmer is planning to try COTMAN, there are a few things to consider that will make its implementation a success (Fig. 5). First, start with the right attitude. Any project can be ruined with the wrong attitude. Don't expect miracles, but don't anticipate failures either. Start by learning everything possible about the program, how it works, why it works, and what must be done to make it work. Also it will take some time to realize that insect termination will be a little scary at first. Know going in that there will be some insect damage in late-season. Take time to set up some tests if it will increase the comfortable level and validate the program. Another attribute of a successful COTMAN program is that good data must be collected in the field. Without good, reliable mappers, one cannot be comfortable with the data. Finally, the farmer will need some knowledge of computers or at least be willing to learn to use them. With these attributes, farmers can benefit from COTMAN.

So what's the bottom line with COTMAN?

- COTMAN allows me to monitor my crop's progress field by field throughout the year.
- It gives me a quick means of determining fruit retention on any given field.
- It gives me peace of mind that the crop is on target for any particular time during the growing season.
- COTMAN is saving me approximately \$9.40 per acre in insecticide costs.
- COTMAN ranks my fields according to maturity.
- COTMAN gets my harvest started on time, taking my picker capacity and best harvest window in consideration.
- I would not want to grow a cotton crop without COTMAN.

Table 1. COTMAN costs on the Wildy Farm.

Item	Cost (\$)
2 mappers	7,552
Travel	712
2 workabouts (5 year life)	280
Supervision and training	5,700
Total	14,244
Total per acre (6,100 acres)	2.33

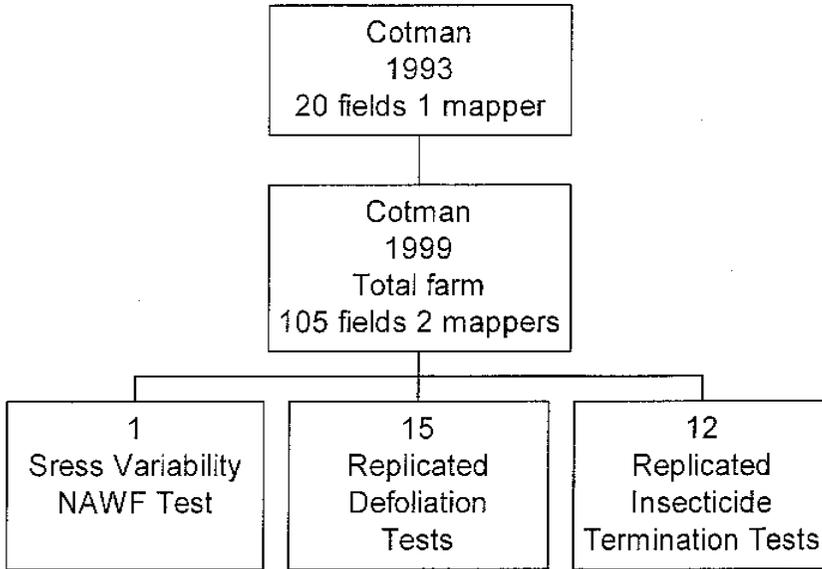


Figure 1. Adoption of COTMAN on the Wildy Farm.

- Plant population
- Fruit retention
small square set
- Identify problem fields
- Shows field progress

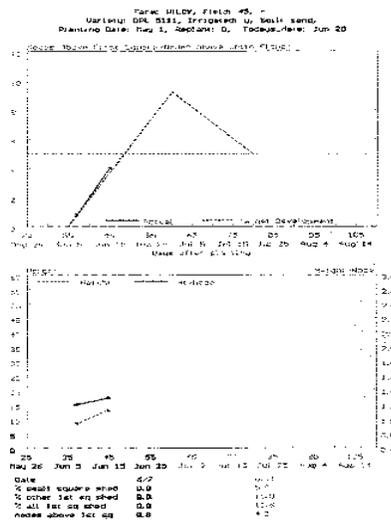


Figure 2. Benefits of COTMAN: early season.

- Farm level report
- Progress of crop
- Fruit shed
- Fruit load
- Identify problem fields
- Efficient use of time and resources

FARM: JOLLY REPORT DATE: 9/15
 FARM DESCRIPTION: SANDY FARM UBAR: 1555 FARM COTTON ACREAGE: 7000

Name	SQUASHED FARM REPORT: TABLE 1		FRUIT LOAD AND RETENTION		
	1st Shed	2nd Shed	1st Shed	2nd Shed	
Area	1st Shed	2nd Shed	1st Shed	2nd Shed	
01	24952	67.4	75.8	194472	37.9
02	193053	3.5	3.3	437520	17.9
03	197049	3.4	7.3	346444	16.8
04	185444	0.0	6.4	232376	15.6
04878	164339	2.0	5.0	320166	15.0
05	162309	0.0	0.0	377488	22.2
06	146422	4.2	6.9	308077	21.2
07	176265	1.7	5.2	232076	22.3
08	162938	2.9	10.0	273702	22.8
09	148376	3.0	4.3	313632	25.6
10	112909	3.0	2.9	283744	16.5
11	141949	0.0	0.0	349322	22.3
12	130829	1.7	4.7	325944	28.0
13	163579	1.7	6.4	355376	24.5
14	162309	3.0	5.3	380413	23.5
15	182339	0.0	0.0	326035	21.7
16	162309	33.3	26.4	346903	23.9
17	176265	3.0	7.1	288121	23.9
18	166405	0.0	1.3	303416	21.1
23	243857	3.0	0.0	186117	21.1
231	0	100.0	100.0	75562	57.4
232	182359	0.0	3.9	430900	34.4
233	173543	3.3	2.1	175719	24.4
234	114854	3.0	0.8	319345	24.7
234N	114854	2.7	0.6	180311	37.8
238	17324	93.0	80.4	370260	23.0
236	167595	12.7	29.4	325291	22.3
207	112951	88.6	92.2	210769	33.7
208	131807	3.0	0.0	290893	21.6
202	143557	0.0	0.0	375731	23.2
21	143574	0.0	27.5	287415	26.7
22	151622	4.7	25.6	267311	21.4
221	162309	0.0	2.3	174824	24.2
252	142487	0.0	0.0	369771	27.2
25	142023	3.3	3.0	318310	19.4
27	232950	0.0	4.3	382178	20.7
28	171208	0.0	85.5	247	24.7
29	212489	1.7	2.9	286492	19.8
30	171208	2.7	2.7	287415	24.7
31	128235	0.0	0.0	252027	12.3
32	114966	0.0	1.0	336287	22.6
33	209490	0.0	1.0	246317	22.6
33	188786	4.3	7.1	281637	22.6
34	126853	3.3	6.4	306828	23.0
35	188786	0.0	0.0	318310	22.6
36	171208	11.7	6.6	253809	22.6
37	126853	3.3	2.4	243566	19.4
48	114210	5.3	5.0	327751	16.9
49	70340	36.0	7.7	423508	32.5
44	64845	29.8	13.0	363587	17.0
42	189339	5.0	0.0	249408	16.1
44	146966	8.3	11.4	372791	25.2

Figure 3. Benefits of COTMAN: mid-season.

- Boll load
- Insecticide termination
- Field maturity
- Defoliation scheduling
- Future uses
- Irrigation termination
- Yield projection

FARM: JOLLY REPORT DATE: 9/15
 FARM DESCRIPTION: SANDY FARM UBAR: 1555 FARM COTTON ACREAGE: 7000

FARM	REPORT DATE	DATE	START	END	USER	COTMAN		DATE OF	COTTON
						START	END		
690	8/29	1562	---	---	---	7/26	75		
691	8/29	1662	---	---	---	7/26	75		
692	8/29	1641	---	---	---	7/23	75		
693	8/29	1648	---	---	---	7/23	75		
694	8/29	1648	---	---	---	7/28	69		
695	8/29	1648	---	---	---	7/28	73		
696	8/29	1648	---	---	---	7/28	73		
697	8/29	1648	---	---	---	7/28	73		
698	8/29	1648	---	---	---	7/28	73		
699	8/29	1648	---	---	---	7/28	73		
700	8/29	1648	---	---	---	7/28	73		
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800	8/29	1648	---	---	---	7/28	73		

Figure 4. Benefits of COTMAN: late season.

- Start with the right attitude
- Learn all you can about the program
- Realize that insecticide termination will take a different approach
- Good data must be collected in the field
- Have knowledge of computers or be willing to learn

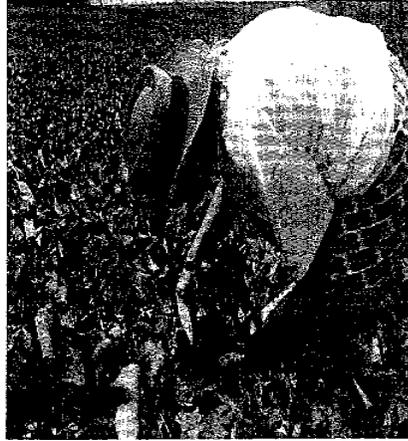


Figure 5. Attributes of a successful COTMAN program on a farm.